The Philippine Private Sector TB Drug Facility: A Need and Supply Situation Analysis

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The Philippine Tuberculosis Initiative for the Private Sector (PhilTIPS)

The consultants of this short-term technical assistance (STTA) were commissioned by the Philippine Tuberculosis Initiatives for the Private Sector (TIPS) to look at TB drug supply issues in the private sector, recommend policy and technical solutions, and propose policy discussion formats. The team worked in close coordination with Dr. Marilyn Noval-Gorra, Policy and Finance Advisor. Dr. Alexander Telyukov and Dr. Mary Paterson of CAMRIS International also assisted in the initial phase of the study.

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ACRONYMS

AFB	Acid-fast bacilli
ARI	Annual risk of infection
BFAD	Bureau of Food and Drugs
CDR	Case detection rate
CDS	Contact distribution system
CXR	Chest x-ray
DOH	Department of Health
DOTS	Directly Observed Treatment Short Course
E	Ethambutol
FDC	Fixed-dose combinations
GAA	General Appropriations Act
GDF	Global Drug Facility
GFATM	Global Fund to fight against AIDS, TB and Malaria
HE	Isoniazid and Ethambutol
HR	Isoniazid and Rifampicin
HRZ	Isoniazid, Rifampicin and Pyrazinamide
HRZE	Isoniazid, Rifampicin, Pyrazinamide and Ethambutol
INH	Isoniazid
KAP	Knowledge, attitudes and practices
LGU	Local Government Unit
MDR	Multi-drug resistant
NEP	National Expenditure Program
NHIP	National Health Insurance Program
NTP	National Tuberculosis Program
NPS	National Tuberculosis Prevalence Survey
PCSO	Philippine Charity Sweepstakes Office
PDI	Pharmacy DOTS Initiative
PhilCAT	Philippine Coalition Against Tuberculosis
PhilHealth	Philippine Health Insurance Corporation
PhilTIPS	Philippine Tuberculosis Initiative for the Private Sector
PNDF	Philippine National Drug Formulary
PPM	Public-private mix
R	Rifampicin
S	Streptomycin
SEMP	Social Expenditure Management Program
STG	Standard treatment guideline
TB	Tuberculosis
UHNP	Urban Health and Nutrition Project
WHO	World Health Organization

EXECUTIVE SUMMARY

The private drug facility (PDF) study was commissioned by the Philippine TIPS project as part of the effort to create an enabling policy environment for sustained private sector involvement in TB-DOTS. The study was divided into 2 phases: phase 1 covered the situational analysis while phase 2 covered the design of a set of policies and mechanisms to secure uninterrupted supply of TB drugs in the private sector, with special focus on PPM-DOTS clinics.

The PDF study focused on the following:

a) assessing the current situation with respect to TB drugs supply vis-à-vis current and projected needs and demands in the private sector;
b) identifying and validating key issues and problems so that a clear specification of the problem and corresponding opportunities can be made as basis for design and policy; and
c) recommending appropriate policies and practical measures that will assure uninterrupted supply of quality and affordable TB drugs for the private sector, in general, and the PPM DOTS clinics, in particular.

The study made use of secondary data obtained from patient surveys, studies, and literature reviews on the subject. Additionally, site visits to selected PPM-DOTS clinics were made for purposes of:

a) observing the dynamics of drug distribution, storage and use;
b) conducting key informant interviews; and
c) reviewing pertinent records on TB drug distribution and inventory throughout the supply chain.

The literature review and secondary data search yielded the following key information:

a) TB is a heavy burden in the Philippines, infecting roughly 63.4% of the population, with a prevalence rate ranging from 3.6 per 1000 for the smear positive, and 9.8 per 1000 for the culture positive. Risk of active disease is higher for males and in the older age groups. Although urban-rural differentials are small, the urban poor have a significantly higher prevalence of active TB than the general urban population.
b) Health seeking behavior of TB symptomatics with bacillary disease is problematic, with 34.5% doing nothing, 22.4% re-

sorting to self-medication, 15.5% consulting public health facilities, and 22.5% consulting private clinics and hospitals.

c) Projections and extrapolations made from existing data reveals that by 2004, about 298,000 Filipinos will be smear positive, and will infect roughly around 700,000 previously uninfected individuals per year. Of these about 38,000 will seek treatment in the private sector and 67,000 will self-medicate.

d) Majority of private physicians do not follow WHO guidelines in their prescription practice, with only 16% adhering to treatment regimen for Category I patients; 10% for Category II patients; and 30% for Category III patients.

e) TB drugs are the 13th top-selling therapeutic category in the Philippine pharmaceutical market, which according to the October 2002 Master Index of Medical Specialities (MIMS), yielded an annual sales of P1.14 Billion (2% of total pharmaceutical market). Five of the top 10 products do not fit WHO-recommended TB regimens.

f) Prices of local, commercially available TB drugs are between 5 to 32 times higher than GDF supplied TB drugs, with the cost of therapy for Category I patients ranging from P10,400 to P17,600, vis-à-vis GDF cost of $9.94. Moreover, quality of locally manufactured TB drugs cannot be assured because of weak regulatory capability of BFAD.

g) The estimated number of sputum positive cases in 2005 is about 300,000 and will grow to about 340,000 in 2009. Estimated cost of drugs to cover these cases is $4.0 Million in 2005 and $4.4 Million in 2009. The corresponding numbers of cases in the private sector are 106,000 in 2005 and 119,000 in 2009, with a total TB drugs funding requirement of $1.4 Million in 2005 and $1.6 Million in 2009 respectively.

h) Estimated supply of TB drugs funded from SEMP loan and GFATM is more than sufficient to meet the 2005-2006 drugs requirement at 2001 levels of case detection rate (57%). It will, however, not be sufficient to meet the 2005-2006 drugs requirement at targeted levels of CDR (70%). Drugs supply beyond 2007 is not secured by available funding.

i) Although delivery of DOH-supplied TB drugs by private forwarder has improved, certain aspects of the distribution system remain problematic: order-receipt discrepancies are prevalent, storage is inadequate, and inventory control systems are weak.

In concluding the situation analysis under PDF Phase 1, the STTA team recommends the following:

a) Cancel or not renew certificate of product registration (CPR) of non-compliant TB drug preparations.
b) Continue GDF procurement for both public and private sector users, and develop mechanisms for distribution of drugs to private sector users.
c) Improve information flow across the drug distribution system.
d) Explore alternative drug distribution scheme for private sector.
e) Expand Pharmacy DOTS Initiative (PDI).
f) Improve MD education on DOTS.
g) Explore use of enablers and incentives to increase CDR and adherence to DOTS regimen.
h) Secure multi-year TB control budget linked to performance monitoring.

I. BACKGROUND

A regular, uninterrupted supply of essential TB drugs is one of the essential components of DOTS. For this reason, the Department of Health (DOH) has committed to supply the drugs required to operate the existing public-private mix (PPM) DOTS centers, using the Global Drug Facility (GDF) grant to the Philippines.

The GDF grant covers the three-year period from 2004 to 2006; 5,000 cases will be treated in 2004 and 50,000 cases in 2005. While this is adequate to cover the needed supply of existing PPM-DOTS centers in the next 3 years, it may not be sufficient to meet the future needs of the country, once on-going efforts have succeeded in raising demand and increasing case detection rates in the private sector.

The Private Drug Facility study and design is a forward-looking technical assistance activity conceived by the Philippine Tuberculosis Initiative for the Private Sector (PhilTIPS)[1] as a means of: a) assessing the current situation with respect to TB drugs supply vis-à-vis current and projected needs and demand in the private sector; b) identifying and validating the key issues and constraints so that a clear specification of the problem and corresponding opportunities can be made as basis for design and policy; and c) recommending appropriate policies and practical measures that will assure uninterrupted supply of quality and affordable TB drugs for the private sector, in general, and the PPM-DOTS Centers in particular.

The PDF study and design are timely, given the renewed global and national effort to stop TB through the PPM-DOTS and the recently launched TB Network. It is also an essential input to the PhilTIPS concurrent work on developing and replicating suitable PPM-DOTS models that are self-sustaining and cost-effective.

[1]PhilTIPS is a 3-year project funded by the United States Agency for International Development (USAID) which aims to contribute to the reduction in TB prevalence in the Philippines by promoting public-private mix DOTS, among others.

II. INTRODUCTION

A. GOAL

The overriding goal of this technical assistance is to review and analyze the private sector patients' access to TB drugs and the underlying factors.

B. OBJECTIVES

Consistent with the above stated goal, the report highlights the following objectives:

- To assess the epidemiology of TB in the Philippines;
- To determine current problems in TB drug selection, procurement, distribution, and use in the private sector;
- To draw conclusions and make general recommendations from the identified problems
- To assess TB drugs financing in the private sector;
- To identify a list of current policy, financing, and strategic issues that need to be addressed to support the expanded participation of the private sector in the TB DOTS program.

III. METHODOLOGY

The main study components are:

- Assessment of need for Regimens I and III TB drugs
- Identification of problems based on demographic and epidemiological trends and the assumed TB case finding and holding rates in the Philippines;
- Analysis of supply of TB drugs to the private sector by major source, volume and value;.
- Estimation of supply-need gap for alternatively assumed case detection rates.

Annex 1 summarizes the key issues investigated and the data collection techniques employed.

The following information resources were used:

- Reported statistics and results of prior studies;

- Additional data collected from PPM-DOTS centers, selected providers, and patients, through key informant interviews, simulated patient interviews, records review and observation.

Projections on the financing and distribution of TB drugs were made based on varying assumptions of demand, case detection rates, and available resources. The analysis gave special focus on the implications for drug supply and effective use by the low income marginalized poor who access TB-DOTS services through PPM-DOTS centers and other private providers.

Interviews were conducted at the DOH to assess the feasibility and likelihood of continued government financing of the drug supply and distribution for PPM-DOTS centers and other private providers.

Other sources of anti-TB drug financing such as international donors, local philanthropic and charity organizations, business corporations were ascertained.

Possible matches of source-specific financing to target population groups were explored. For example, some large business corporation may adopt communities or specific population segments to sponsor TB drugs. Likewise, large charity organizations, such as the Philippine Charity Sweepstakes Office (PCSO) may opt for indirect financing by enrolling indigents in the National Health Insurance Program (NHIP) so that they can avail of the TB outpatient benefit package.

The situation analysis focused on estimating TB drugs needs and supply in the short and medium-term. Analysis of demand factors was undertaken through a consultation process which constituted an integral stage of PDF policy design.

The situation analysis made use of the following indicators: [2]

- Physical availability: Percent of time TB drugs are out of stock in pharmacies

[2]Majchrzak, A, *Methods for Policy Research (Applied Social Research Methods Series, volume 3)*. California: Sage Publications, 1984.

- Geographic accessibility: Percent of TB patients greater than one hour's travel from a DOTS Center;
- Relative cost to patients: Number of days lowest-paid government employee has to work to pay for a standard TB-DOTS regimen;
- Pricing patterns: Average price difference between generic and branded versions of TB drugs;
- Patient satisfaction: Percent TB patients satisfied with outcome of last visit to DOTS center;
- Quality of products: Percent of TB drugs in DOTS centers that failed quality tests;
- Quality of care: Percent TB records complying with standard treatment guidelines for DOTS;
- Prescription patterns: Percent private physicians able to correctly describe DOTS regimen;
- Sustainable financing: Percent TB patients covered by health insurance; Percent minimum DOTS cost covered by PHIC benefits package
- Private distribution: Degree of participation of private distribution companies in TB drugs supply

Field Visits and Key Informant Interviews

Key informant interview (KII) in this study concerned identifying main persons involved in the operation of a DOTS center who are especially knowledgeable about TB drug management in their facility. It involved asking questions about their experiences working in a DOTS center and managing one of the main resources involved, the TB drugs. In this manner, information was elicited from people with more than average knowledge of TB drug management in a DOTS Center setting through a face to face interview by the PDF Study Team.

Site selection and Key Informants: DOTS Center selection for this KII was purposive. A list of DOTS Centers from the PhilTIPS Office was used to select sites appropriate for this purpose. Key informants were usually the persons involved in the day-to-day operation of the DOTS centers.

In the course of conducting this KII, the PDF team later realized that those connected with other institutions involved in the whole TB drug management cycle also needs to be interviewed. Consequently, representatives of Regional Health Offices or Centers for

Health Development, Provincial Health Offices and Regional PhilHealth Offices were also included in the list even if they were not operating as DOTS Centers. Key informants from both public and private DOTS centers were interviewed to generate relevant information for deeper understanding of the main issues in this study.

Preparing the tool: The PDF team developed the data collection tool which was pre-tested at the Unilab DOTS Center with its' two nurse staff as the key informants. The tool focused on the key aspects of drug management system, namely: selection, procurement, distribution, and use of TB drugs. Revisions were then made on the data collection instruments which were used in the rest of the facilities visited.

Arranging for the interview: Letters of requests for interviews with prospective respondents were coursed through PhilTIPS. These letters specified the purpose of this activity, the potential respondents, and the specific time and place of the interview. Follow-up telephone calls were later made to confirm availability of respondents and informants for interview.

Conducting the Interview: The KII was conducted with the PDF Team as interviewers and the pre-tested questionnaire as the interview guide. Observation of the facilities used in the storage and management of TB drugs were also done in the DOTS centers visited. The standard protocol for the KII is as follows: A member of the team introduces the rest of the team members and explains the purpose of this activity. With the questionnaire as guide, one or two members ask questions directed to the respondents. When needed, follow up questions were raised to clarify or probe further the responses given by the key informants. Responses were duly noted and recorded by other team members. The length of one interview took about 30 minutes on the average per DOTS center visited

Sites Visited and Key Informants

10 May 2004 – Cavite

1. Tuberculosis Research Unit, Angelo King Medical Research Center, De La Salle
University Health Sciences Campus, Dasmariñas, Cavite
Dr. Victoria Basa-Dalay, Director

2. Tanza Health Center, Tanza, Cavite
Dr. Ruth Punzalan, Municipal Health Officer

25 to 28 May 2004 – Davao and Cebu

1. PhilHealth Davao Regional Office XI, Davao City
Dr. Marivic Pula-Malate
Dr. Hector P. Malate
Dr. Ruben Lacuna

2. Davao del Sur Provincial Health Office, Digos City
Dr. Mahelindez Z. Colmenares, Provincial Health Officer
Dr. Edwin Mayor, Chief Technical Staff

3. Davao Health Management Research Group Foundation (HMRGF), Davao City
Dr. Camilo Naraval Jr., Executive Director
Ms. Joy Basconillo, Nurse
Ms. Sunday de Loyola, Bookkeeper
Ms.Ana S. Tomas, Finance Officer

4. Davao Regional Health Office (Center for Health Development), Davao City
Dr. De Gracia

5. Philippine Tuberculosis Society (PTS or TB Pavilion), Cebu City
Dr. Purita Gil, Regional Director
Ms. Arsenia L. Bumaya, Staff Nurse
Ms. Mercenia Dosdos Mollaneda, NTP DOTS Coordinator

6. Regional Health Office (CHD), Cebu City
Dr. Rosario Benabaye, Regional Director
Dr. Cora Lou Kintanar, Chief, Communicable Disease Control Unit
Ms. Lucy Aguiman, Cebu Regional Reference Laboratory
Ms. Vivian Diapera, Clerk III
Ms. Thelma Amante, Buyer III

7. Provincial Health Office, Cebu City
Mr. Sergio Villahermosa, Supply Officer II
Ms. Dahlia Abordo, Nursing Attendant

8. Lapu Lapu City Health Office, Lapu Lapu City
Dr. Rodolfo Berame, City Health Officer
Dr. Nestor Tuñacao, NTP Coordinator
Ms. Margarita E. Dequito, NTP Nurse Coordinator

9. Mandaue City Health Office, Mandaue City
Dr. Oscar Quirante, City Health Officer
Ms. Eden Baring, NTP Coordinator

01 to 2 June 2004 – Iloilo
1. Center for Health Development, Iloilo City
Dr. Sophia Chua, OIC Regional Director
Dr. Ralph Cabral, Medical Officer IV
Ms. Josephine Tapales, Supply Officer

2. Iloilo Provincial Health Office, Iloilo City
Dr. Carmen L. Bayate, Provincial Health Officer II
Ms. Myrna Villar, Nurse Coordinator
Mr. Edgar Piansay, Supply Officer

3. City Health Office, Iloilo City
Dr. Bernard Caspe, NTP Coordinator
Ms. Ilovita P. Daluz, Nurse Supervisor
Ms. Mae Muyuela, Senior Public Health Nurse

4. St. Paul's Hospital DOTS Center, Iloilo City
Ms. Imemar Divino, Midwife
Ms. Elcie Azucena Solis, Nurse Coordinator

5. Sta. Barbara Rural Health Unit, Sta. Barbara, Iloilo
Dr. Camilla Lellis S. Tremuncha, Municipal Health Officer
Ms. Eva Milanes, Nurse Coordinator

6. Citizens' Coalition Against Tuberculosis
Dr. Malbar G. Ferrer, President
Dr. Teomarte Tayo, CEO

III. FINDINGS

A. TB TRENDS IN GENERAL AND LOW-INCOME POPULATIONS WITH ACCESS TO PRIVATE CARE

1. The 1997 Philippine Tuberculosis Prevalence Survey (NPS) is the main data source used to analyze the epidemiology of TB. The estimated incidence, annual risk of infection (ARI), and effective contact number are calculated from the corresponding prevalence estimates.

   The following articles describing the1997 NPS by Tupasi TE, et al were used as references:

   a. The 1997 Nationwide Tuberculosis Prevalence Survey in the Philippines
   b. Bacillary Tuberculosis in Rural and Urban Communities in the Philippines
   c. BCG Coverage and the Annual Risk of Tuberculosis Infection over a 14-year Period in the Philippines Assessed from the Nationwide Prevalence Surveys
   d. Bacillary Disease and Health-Seeking Behavior among Filipinos with Symptoms of Tuberculosis: Implications for Control
   e. Tuberculosis in the Urban Poor Settlements in the Philippines

2. TB is a heavy burden on the Philippines.

   a. Estimates based on the tuberculin tests conducted during the 1997 NPS indicated the prevalence of TB infection in the general population to be 63.4%.[1] This means that almost two-thirds of Filipinos have been exposed to TB even though a majority may not have exhibited symptoms of the disease. The prevalence of TB infection was higher in men (67.0%) than in women (63.4%). It was also highest in the working age population (range: 51 to 84%) compared to children (range: 8 to 32%) and the elderly (69-77%). Although there was very little difference between the urban and rural populations (62% and 64%, respectively), within the urban population, the prevalence among the urban

[1] Tupasi TE et al, *BCG coverage and the annual risk of tuberculosis infection over a 14-year period in the Philippines assessed from the Nationwide Prevalence Surveys.* Int J Tuberc Lung Dis 4(3):216-222.

poor (67%) was higher than among the general urban population.[2]

b. Active TB is determined by chest radiography (CXR). In the NPS of 1997, the adjusted prevalence of active TB was 38/1000 population.[3] Again, the prevalence was higher in males than females (49/1000 vs. 29/1000, respectively). The prevalence increased progressively from 12/1000 among the 10-19 year old age group to 100/1000 in the >=50 year old age group. There was no urban-rural difference. However, the urban poor settlements had a much higher rate than the general urban areas (60/1000 vs. 39/1000, respectively).

c. TB bacillary disease is determined by either sputum culture or sputum smear. Sputum culture is the golden standard for the diagnosis of bacillary TB and, therefore, gives a much higher prevalence rate than sputum smear.

d. The adjusted TB culture-positive (culture +) prevalence rate was 9.8/1000 in the NTPS 1997. Again, there were large male-female differences (14/1000 vs. 6/1000, respectively). However, the prevalence rate among the younger was lower than among the older age groups (4/1000 vs. 16/1000, respectively). Following the general trend, there were no urban-rural differences, but large differences exist between the urban poor (15/1000) and the general urban population (9/1000).

e. On the other hand, the adjusted TB smear-positive (smear +) prevalence rate was 3.6/1000. Male-female differences were likewise large (5/1000 vs. 2/1000) and the increasing trend from the young to the old persisted (from 2/1000 to 7/1000, respectively). Although urban-rural differences were slight (4/1000 and 3/1000, respectively), the urban poor had a higher rate than the general urban population (7/1000 vs. 4/1000, respectively).

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[2] Tupasi TE et al, *Tuberculosis in the urban poor settlements in the Philippines.* Int J Tuberc Lung Dis 4(1):4-11.

[3] Tupasi TE et al, *The 1997 Nationwide Tuberculosis Prevalence Survey in the Philippines.* Int J Tuburc Lung Dis 3(6):471-477.

f. Incidence is the number of new TB cases in a specific population over a defined time period, usually one year. Although the 1997 survey only estimated prevalence rates, we can compute the incidence rates of TB from them using the following formula:

Incidence = Prevalence / Duration of disease[4]

Since the proportion of culture + patients that are smear + is 37% (9.8/3.6) and the average duration of TB disease is 2.2 years, the prevalence of smear + TB approximates its incidence (incidence = prevalence / 0.37 / 2.2). Thus, the computed incidence rates of TB for the various risk groups are as follows[5]:

Table 1. Estimated Incidence Rate for Sub-Groups (1997)

Risk Group	**Incidence Rate (per 1000 population per year)**
Total	4.4
Sex	
• Male	6.6
• Female	2.3
Age	
• 10-29 y.o.	1.8
• 30-49 y.o.	6.5
• >=50 y.o.	8.7
Area	
• Urban	5.0
• Urban poor	8.2
• Rural	4.2

The table shows that there are 4.4 new TB cases per 1000 population per year. The risk of new TB smear + cases is higher in males (6.6/1000), in the 30-49 year old age group (6.5/1000), and in both the urban (5.0/1000) and the urban poor populations (8.2/1000).

[4] Rothman KJ and Greenland S, *Modern Epidemiology, 2nd Ed.* Pennsylvania: Lippincott-Raven Publishers, 1998, pp. 43-44.

[5] Dye CS et al, *Global Burden of Tuberculosis: Estimated Incidence, Prevalence, and Mortality by Country.* JAMA 282(7):677-686.

e. The annual risk of infection (ARI) is the probability of acquiring a tuberculosis infection among uninfected individuals (not in the general population as in the incidence rate) and is computed from the prevalence of tuberculin positive cases among unvaccinated individuals. The ARI for the various risk groups are as follows:

Table 2. Estimated ARI for Sub-Groups (1997)

Risk Group	**ARI (per 100 uninfected population per year)**
Total	2.3
Sex	
• Male	2.5
• Female	2.1
Area	
• Urban	2.6
• Urban poor	6.5
• Rural	2.0

f. From the ARI and the prevalence of infectious (smear +) TB cases, we can derive the *effective contact number* or the number of individuals effectively contacted by each infectious case. An effective contact is one in that is sufficient to lead to infection.[6] The effective contact number is the ratio of the ARI to the prevalence of infectious TB individuals. It is number of uninfected individuals whose contacts with an infectious TB patient will lead to an infection. The effective contact number for each risk group is shown below:

Table 3. Estimated Effective Contact Number for Sub-Groups (1997)

Risk Group	**Effective Contact Number**
Total	6
Sex	
• Male	5
• Female	11
Area	

[6] Vynnycky E and Fine PEM, *Interpreting the decline in tuberculosis: the role of secular trends in effective contact.* Int J Epi 1999(28):327-344.

Risk Group	Effective Contact Number
• Urban	6
• Urban poor	10
• Rural	6

Each infectious TB case in the Philippines infects six other individuals during the course of one year. This number is roughly the same for males and the urban and rural populations. However, the number of effective contacts of infectious female TB cases is much higher: 11. Females may have more contacts than males. The high effective contact number also presages higher TB incidence in this group in the future.

The table also shows that each infectious TB case in urban poor settlements infects 10 other individuals. This is most certainly due to the overcrowding that occurs in these environments.

3. Previous to 1997, the last national TB prevalence survey was done from 1981-83. Adjusting for methodological differences, the prevalence rates of the two surveys compare as follows:

Table 4. Comparison between 1981-83 and 1997 Nationwide Tuberculosis Prevalence Surveys

Measure	1981-83	1997	% +/- change
Radiographically active PTB	42	42	0
• Minimal	24.6	34.4	+40
• Moderate/far advanced	16.9	7.1	-58
• Cavitary	4.7	2.6	-45
Bacillary disease			
• Culture +	12.5	9.4	-25
• Smear +	9.5	6.0	-37

Although the prevalence of active TB disease has not changed from 14 years ago, there has been an evident shift towards less severe cases and cases with less bacillary load. Moderate or far advanced and cavitary TB disease have decreased by 58% and 45%, respectively.

This has resulted in an increase in the proportion of minimal disease by 40%. Both culture + and smear + cases have decreased by 25% and 37%, respectively.

The transition to less severe cases may be due to efforts to treat TB during the past 14 years that have controlled but have not eliminated the disease.

4. Analysis of the health-seeking behavior of TB patients will help us estimate the proportion and number of private TB patients. The 1997 NTPS showed that there were differences in the health-seeking behavior between all TB symptomatics and TB symptomatics with bacillary disease. However, only 14% of TB symptomatics have bacillary disease. Thus, it will be more useful to look at the health-seeking behavior of TB symptomatics with bacillary disease rather than all TB symptomatics. The behavior of symptomatics with bacillary disease is described in the table below:

Table 5. Profile of Health-Seeking Behavior of Persons with TB Bacillary Disease

Action Taken	Percent
None	34.5
Non-medical actions	
• Self-medication	22.4
• Traditional healer	3.4
• Family member	1.7
Medical consultation	
• Public	
o Health center	15.5
o Hospital	9.8
• Private	
o Clinic	10.4
o Hospital	2.3

From the table above, TB patients who seek relief from a private health professional would be those who consult private clinics and hospitals (about 13%) and those who self-medicate (22% if we assume that all those who self-medicate seek advice from a pharmacy).

Thus, the total proportion of TB patients 'in the private sector' would be 35%.

It should be noted that a large 34% of TB patients take no action at all on their illness. Part of this could be due to subgroups that have no access at all to health services and facilities.[7] Other reasons could the feeling of shame felt by patients with disease.[8] In addition, sick patients could also suffer from a feeling of hopelessness and, thus, do not seek consultation.[9]

5. Additional data on TB health seeking-behavior of the urban poor is available from the 1997 Urban Health and Nutrition Project Survey. However, this could not be accessed within the period of the situation analysis.

6. In summary, with the present Philippine population of 82.7M, about 52.4M are infected with Mycobacteria tuberculosis or the tuberculosis bacteria. About 3.1M have active TB infection as demonstrated by CXR. About 810,000 Filipinos are culture +, while 298,000 are smear +. These smear + cases will infect about 700,000 previously uninfected Filipinos every year. Also, about 53,000 of these smear + cases live in urban poor settlements. There are roughly also about 366,000 new infectious TB cases every year, although only 135,000 of them will be diagnosed by sputum smear. Finally, of the 298,000 smear + TB cases, about 38,000 will seek treatment in the private sector (31,000 in clinics and 7,000 in hospitals) and 67,000 will self-medicate by seeking advice from pharmacies.

   The 'stream' of private TB patients from the 'sea' of the general population is depicted below:

[7] Dye C et al, *What is the limit to case detection under the DOTS strategy for tuberculosis control?* Tuberculosis 83: 35-43, 2003.
[8] Ortaleza G, *Vignettes on TB Stigmatization.* 2003.
[9] Blumenfeld SN et al, *Reducing treatment default among tuberculosis patients in the Philippines.* Center for Human Services: 1999.

Table 6. Estimated Magnitude of Sub-Groups of TB Patients (1997)

Total Population (2004)	Exposed to TB	Status of TB Infection	Bacillary Disease	Uninfected Individuals Acquiring TB Infection (Per Year)	New Infectious Cases (Per Year)	Diagnosed by Sputum Smear	Private Sector
82.7M	*52.4M infected*	*3.1M active*	*298,000 smear + (53,000 smear + in urban poor settlements)*				
			810,000 culture +		*366,000 newly infectious cases*	*135,000 new sputum +*	*103,000 consult private doctors (84,000 in clinics and 19,000 in hospitals)*
							181,000 self-medicate (assume all in private pharmacies)
			2.3M culture and smear -				
		49.3M inactive					
	30.3M uninfected			*700,000 new infections*			

B. TB DRUGS SUPPLY AND USE

1. SOURCES OF EVIDENCE

The information for private physician prescribing behavior comes from the 2002 PhilCAT survey of five private health settings (see complete citation in the footnote) and from Portero and Rubio's 2002 study of private practitioners in

the Philippines. The drug products and their prices were from the 2004 edition of the MIMS, a local drug price reference index. Information on the Global Drug Fund was from its website. Data on BFAD registration, number of pharmacies, and number of doctors were taken from the Philippine Healthcare Association of the Philippines (PHAP) Factbook. The description of Diethelm, a private logistic company, was taken from an article in the Business World newspaper. Finally, the lessons on enablers and incentives were taken from a paper by the WHO and the MSH.

2. PRESCRIBING BEHAVIOR

a. Among private physicians awareness of the DOTS strategy appears to be high: 73%. However, only a third (29%) uses it in their private practices.[10] However, when asked about the specific components of DOTS, only a small proportion of doctors could correctly name them; political commitment had the lowest proportion of doctors naming it as a DOTS component (25%), while requirement for a treatment partner was the highest (64%). Forty-four percent of private doctors did not use AFB sputum smear as the initial diagnostic test for TB symptomatics. Only 2% of them used AFB sputum smear alone as recommended by the WHO guidelines.

b. When it comes to prescription practice, most private physicians do not adhere to the WHO guideline-recommended treatment for the various categories of TB disease. The following table shows the proportion of physicians who correctly prescribe in each disease category and the number of variant regimens they employed:

[10] PhilCAT, *Current Trends in TB Management by Private Physicians in the Philippines: A Survey in Five Private Health Settings.* Philippine Coalition Against Tuberculosis: Quezon City, Philippines: 2002.

Table 7. Private Physician Compliance and Variation in Regimens in the Philippines (2002)

Disease Category	% Private Physicians Compliant with WHO Guidelines	No. of Regimen Variants
I	**16**	
New smear + case of TB	21	21
Seriously ill TB case	14	25
Smear (-) but with extensive parenchymal involvement on XR	12	27
Extra-pulmonary TB	17	27
II	**10**	
Failure case	0	37
Relapse case	16	27
Smear + after five months of treatment	17	22
III		
Smear – but with minimal PTB on CXR	30	21
MDR TB case		**17**

In a focus group discussion to validate the survey results, the following reasons were given for the physicians' non-compliance with DOTS and non-cooperation with the National Tuberculosis Program (NTP)[11]:

1. lack of awareness
2. perceived incompetence or inadequacy of the public health staff to undertake sputum microscopy
3. lack of DOTS training in medical school
4. inability of patients to expectorate sputum
5. incentives provided by pharmaceutical companies to follow their own guidelines
6. lack of coordination between public and private providers

In another survey of about 1,400 private physicians in the Philippines, 88% of private physicians used CXR alone to diagnose TB. Almost all of them did not trace the de-

[11] Capuno J et al, *A Policy Analysis of Private Sector Participation in TB DOTS*. Philippine Tuberculosis Initiatives for the Private Sector: Manila, 2003.

faulters and the patients' contacts. Only 24% knew the National Tuberculosis Program well.[12]

c. TB drugs are the 13th top-selling therapeutic category in the Philippine pharmaceutical market.[13] In October 2002, the latest year for which data were available, the one-year sales for TB drugs was P1.14B. This was 2.00% of the total pharmaceutical market of P57.1B.

   Of the TB drugs, rifampicin had the largest sales, P252M or 22% of total TB drug sales. This is probably due to the fact that it is also the most expensive TB drug. However, rifampicin drugs experienced a 16% drop in sales compared to the previous year. This is in contrast with other TB drugs which experienced a 7.25% growth. One explanation for this could be a shift to combination TB drugs.

The top ten selling TB drugs are listed below:

Brand	Generic	Patient Type	Sales	% sales	% growth
Myrin P	HRZE	adult	131,186,984.00	14.82	30.62
Myrin[14]	*HRE*	*adult*	*61,626,358.00*	*6.96*	*35.74*
Rifinah	HR	adult	60,272,775.00	6.81	(19.16)
4D	HRZE	adult	54,393,954.00	6.15	31.99
PZA	*Z*	*adult*	*54,212,379.00*	*6.13*	*0.15*
Tres	*HRE*	*adult*	*48,663,800.00*	*5.50*	*20.60*
Comprilex	*H*	*pedia*	*44,457,660.00*	*5.02*	*14.38*
Econokit	HRZE	adult	39,888,258.00	4.51	14.72
Rifater	HRZ	adult	36,331,580.00	4.11	(25.52)
Trisofort	*H*	*pedia*	*23,098,380.00*	*2.61*	*21.00*
		Total	**554,132,128.00**	**62.62**	

The top ten drugs represent 62% of the total TB drug market. Two of them are pediatric preparations representing 12% (or P67.5M) of the top ten TB drug market, while adult preparations represent 88% of the market.

[12] Portero JL and Rubio M, *Private Practitioners and Tuberculosis Control in the Philippines.* Medicos del Mundo Spain Tuberculosis Project in the Philippines: Manila, 2002.
[13] MIMS, October 2002.
[14] *Italicized drug products*—non-compliant with WHO standard regimens if used alone.

Five of the the top ten products, (Comprilex, Trisofort, Myrin P, Tres, and PZA) do not fit the standard TB regimens recommended by the WHO. They are either single-drug preparations or combinations that do not correspond to the standard regimens. The three HRZE preparations (Myrin P, 4D, and Econokit), which are part of standard regimens, experienced positive growth in 2002, ranging from 15% to 32%. However, the other two standard regimen products (Rifinah and Rifater) experienced negative sales growth in 2002, ranging from -15 to -26%. Thus, in 2002, we have a mixed picture of standard TB drug product demand. On the other hand, the non-standard drug products all experienced positive sales growth, ranging from 0.15% to 36% for PZA and Myrin, respectively. In summary, both standard and non-standard regimen products experienced increases in demand, some of them at a faster rate than the total pharmaceutical market, which only grew 8% in 2002.

It should be noted that of the two top-selling products, Myrin P and Myrin (both manufactured by Wyeth), Myrin, which is an HRE combination, does not comply with the WHO standard regimen when used alone. It needs to be combined with pyrazinamide to be compatible.

d. There are many commercially-available TB medicines available for private physicians to prescribe. Because of their number, the combinations of drugs used in regimens are almost endless. The table below summarizes the packaging variants of TB medicines that are commercially available[15]:

Table 8. Number of Locally-Available Commercial TB Drug Products (2004)

[15] Data collected from MIMS Philippines. MediMedia: Manila, 99th ed., 2004.

Generic Name	Type of Preparation	No. of Commercially-Available Products	No. of Fixed-Dose Combination Products
INH	Adult	12	
	Pediatric	18	
Rifampicin	Adult	19	
	Pediatric	25	
Pyrazinamide	Adult	3	
	Pediatric	5	
Ethambutol	Adult	3	
Streptomycin	Adult	2	
HR	Adult	10	8
	Pediatric	5	
HE	Adult	7	7
	Pediatric	3	
HRZ	Adult	8	3
	Pediatric	1	
HRE	Adult	5	1
HRZE	Adult	12	1

e. Recently, the WHO has recommended the use of fixed-dose combinations (FDC) in DOTS programs. The Philippines procured FDC as a grant from the Global Drug Facility (GDF). FDC are included in Philippine National Drug Formulary (PNDF) and are registered by the Bureau of Food and Drugs (BFAD). Locally, there are eight FDC preparations for HR, seven for HE, three for HRZ, and one each for HRE and HRZE. All of these are BFAD-registered. Of the local FDC preparations listed above, only HRE is not in the PNDF.

f. The prices of local, commercially-available drug products are 5 to 32 times more expensive than those procured from the Global Drug Fund (GDF), even accounting for freight, insurance, and duties.

Table 9. Comparison of Price Range of Local and GDF TB Drug Products

Generic Name	No. of Products	Local Price ($)			GDF Price ($)	Mean Local to GDF Price Ratio
		Low	*Mean*	High		
HRZE	18	0.515	*0.715*	0.858	0.033	22
HR	16	0.295	*0.413*	0.508	0.013	32
S	2	0.107	*0.220*	0.493	0.054	4
E	2	0.080	*0.120*	0.160	0.013	9
Z	3	0.071	*0.076*	0.080	0.015	5

The cost of therapy for category 1 patients, using local drug products, would amount to $259 or P14,500 (range of P10,400 to 17,600). Using GDF products, the cost would only come to $9.94. The comparative cost of treating each of the disease categories is shown below:

Table 10. Comparison of Cost of Regimens Using Local and GDF Drug Products

Disease Category	Drug Regimen	Cost of Therapy Using Local Products (Pesos)			Cost of Therapy Using Local Products (Dollars)			Cost of Therapy Using GDF Products ($)	Ratio of Mean Local to GDF Price
		Low	*Mean*	High	Low	*Mean*	High		
I	2HRZE/4HR	10,400	*14,500*	17,600	185.64	*258.84*	314.72	9.94	26
II	2HRZES/ 1HRZE/ 5HR	16,400	*23,300*	29,400	293.27	*416.39*	524.24	22.24	19
III	2HRZ/4HR	3,100	*4,400*	5,400	55.62	*78.35*	97.08	*(data not available)*	
o Children	2HRZ/4HR	5,800	*8,000*	9,800	103.12	*142.94*	175.08	5.19	28
o Adults	2HRZE/4HR	10,400	*14,500*	17,600	185.64	*258.84*	314.72	9.91	26

Thus, if local drug products were used, treating all 300,000 sputum + patients would cost P4.3 billion in 2005 alone. If GDF products were used, the country would only need P222M to treat all of these patients. This is only 5% of the total cost of local products.

g. In a survey of 6 PPM DOTS Center (3 public and 3 private), it was determined that all the centers have a copy of the standard treatment guideline (STG) for TB. However, only two-thirds have a copy of the guideline for the use of fixed-dose combination (FDC) preparations.

3. PROCUREMENT

a. The estimated number of sputum + TB cases in 2005 will be about 300,000; this will grow to about 340,000 in 2009. Consequently, the funding needs to cover the drug requirements will be $4.0M in 2005 increasing to $4.4M by 2009. In the private sector, the corresponding number of TB cases will be 106,000 in 2005 and 119,000 in 2009. The funding needs to cover drug requirements in the private sector will be $1.4M in 2005 and $1.6M in 2009. The total funding needs for the five years will be $ 7.4M. The computations for the above figures are shown in Annex 4.

The table below shows the funding requirements and the demand for TB drugs using the true incidence rate and a desired CDR of 75%. It also shows the effective demand for TB drugs using the global incidence rate and the 2001 CDR of 57% (latest figures).

Table 11. Supply of, Demand, and Effective Demand for TB Drugs (2005-09)

Measure	2005	2006	2007	2008	2009	*Total*
All TB cases						
Funding requirements ($)	2,977,514	3,059,934	3,144,636	3,231,682	3,321,137	**15,734,902**
No. of smear + episodes detectable at 75% CDR	227,397	233,691	240,160	246,808	253,640	**1,201,697**
No. of smear + episodes detectable at true incidence and 2001 CDR (57%)	*75,443*	*77,208*	*79,015*	*80,864*	*82,765*	***395,286***
GFATM	50,000	50,000				
SEMP Loan	150,000	150,000				
Total Supply	*200,000*	*200,000*				
Supply Excess (no. of cases)	***124,557***	***122,792***				
Private sector patients						
Funding re-	1,045,107	1,074,037	1,103,767	1,134,320	1,165,719	**5,522,951**

Measure	2005	2006	2007	2008	2009	*Total*
quirements ($)						
No. of smear + episodes detectable at 75% CDR	79,816	82,026	84,296	86,630	89,028	**421,796**
No. of smear + episodes detectable at true incidence and 2001 CDR (57%)	*26,480*	*27,100*	*27,734*	*28,383*	*29,047*	***138,745***
GDF Grant	*50,000*					
Supply Excess (no. of cases)	***23,520***					

The table above also shows that for the next two years, there will be expected supply gaps totaling 61,000 TB cases. From funding from the Global Fund for AIDS, Tuberculosis, and Malaria (GFATM) and from the World Bank Social Expenditure Management Program--2 (SEMP-2) Loan, the Philippines can already purchase GDF drugs for 200,000 TB cases for the years 2005-06. However, there will still be a shortfall of 27,000 cases and 34,000 cases for the years 2005 and 2006, respectively. In the private sector, the GDF grant will supply drugs for 50,000 cases in private DOTS centers in 2005. This will leave a shortfall of 30,000 cases in the private sector. The computations for effective demand are shown in Annex 5.

b. TB drugs, being off-patent medicines are available from both local and multinational pharmaceutical companies.
   i. There are 30 pharmaceutical companies (including United Lab and five of its subsidiaries) manufacturing 138 TB drug products. Each company manufactures a median of three TB drug products. The six Unilab companies together manufacture 27 products (20%). The number of TB drug products manufactured by each company is summarized below:

Table 12. List of TB Drug Manufacturers and the Number of Products Manufactured

Manufacturer	No. of TB Drug Products	%
1. United Lab (includes subsidiaries: General Drug and Chemical, Pediatrica, Ritemed,l UAP, and Westmont)	27	20
2. Pascual	20	14
3. Duncan	15	11
4. Novartis Biochemie	8	6
5. St Martin	8	6
6. Medichem	7	5
7. Natrapharm	6	4
8. Terramedic	6	4
9. Pharma Dynamic	5	4
10. Allied Pharm	4	3
11. IAE	4	3
12. Am-Europharma	3	2
13. Drugmaker's Biotech	3	2
14. Medic+Aid	3	2
15. Pharmacare	3	2
16. Wander	3	2
17. Lafayette	2	1
18. Medi-Rx	2	1
19. Pacific Pharma	2	1
20. Wyeth	2	1
21. Biolab	1	1
22. Boie	1	1
23. Filadams	1	1
24. Karnataka	1	1
25. Vamsler	1	1
Total	**138**	**100**

The top eleven companies make 80% of the TB drug products. It should be noted that of the top eleven companies, only one is a multinational drug company (Novartis) which markets 6% of the products. This could be due to the fact that all of the first-line TB drugs are off-patent. This allows generic versions of the drugs to be manufactured by many companies.

ii. There are two possible international sources of TB drugs: the Global Drug Facility (GDF) and the International Dispensary Association (IDA).
    a) The GDF is a 'global mechanism to ensure uninterrupted access to quality TB drugs for DOTS implementation.' It seeks to address the problems of inadequate access to TB drugs. This problem is caused by several factors: inadequate funding, inefficient and ineffective procurement, political and financial crises, heath system management failures, and poor quality of drugs. Started in 2001, the GDF is designed to operate for a period of 10-15 years. By providing qualified countries with a regular, uninterrupted supply of drugs, the GDF will enable them to allocate resources to finance rapid, quality DOTS expansion.[16]

    The GDF provides three types of services:
    1) Grants—These endowments are provided only for a limited period and only for the purpose of fast-starting supply of TB drugs in high-burden countries.
    2) Procurement services— GDF's direct procurement service can be availed by countries that have their own source of funds but have inefficient procurement mechanisms. Through this mechanism, money is advanced to GDF for the purchase of low-priced but high-quality drugs from its pre-qualified suppliers. The GDF is able to achieve low prices because it practices bulk procurement.
    3) List of prequalifed suppliers—The GDF also publishes a 'white list' of pre-qualified suppliers who have been screened for the capability of selling quality, low-priced TB drugs. Countries with their own financing and with efficient procurement mechanisms may purchase directly from these suppliers.

[16] Stop TB Partnership Secretariat, *The Global TB Drug Facility: Prospectus.* WHO: Switzerland, 2001.

The Philippines' participation in the GDF is further described in the Financing Section.

b) The International Dispensary Association (IDA) is a nonprofit organization 'committed to contribute towards greater accessibility of healthcare supplies in developing countries.'[17] It is the world's largest nonprofit supplier of pharmaceutical and medical supplies.

The prices of the IDA and the GDF are compared below:

Table 13. Comparison between GDF and IDA Drug Prices

Generic Name	GDF Price ($)	IDA Price ($)	IDA to GDF Price Ratio
HRZE	0.033	0.054	1.6
HR	0.013	0.018	1.4
S	0.054	--	--
E	0.013	0.016	1.2
Z	0.015	0.022	1.5

c. Drug quality is important to the DOTS program.

i. The ability of the BFAD to regulate drug companies is weak.

a) In general, there are three ways of evaluating the quality of drug products: laboratory testing, good manufacturing practice (GMP) compliance by the manufacturer, and bioequivalence testing.
b) There are only a handful of bioequivalence laboratories in the Philippines and their capacity to perform testing is limited. Bioequivalence is not a requirement for generic drug registration in the Philippines, as in many developing countries.
c) In 2000, because of the two-year backlog in new market applications, the BFAD did away with

[17] www.ida.nl

laboratory testing of new products. Instead, it relies on a system of post-marketing surveillance (PMS) to verify drug quality; thus, it only performs a paper review of new drugs.[18] As of end 2001, BFAD has about 4,600 unprocessed new drug product applications. It is unclear what the extent of the PMS being performed is and how effective it is.

d) Good manufacturing practice compliance is a quality assessment of the capability of pharmaceutical manufacturing plants to assure the quality of its products. The BFAD rates manufacturers on a three-level scale, from highest to lowest compliance. At present, there are no companies that have the highest rating of 90% compliance. Moderate GMP rating (75-89% compliance) has been achieved by 16 (23%) local drug companies. The other companies have a compliance of less than 75%.

e) Against this background, stakeholders have no basis for determining the quality of local drug products.

ii. GDF products are quality-assured. Suppliers are pre-qualified: GMP compliance is ascertained. Each batch is subjected to independent laboratory analysis. Each order is inspected before shipment. Standardized WHO drug formulations are used. In addition, bioequivalence studies are also performed for the products.[19]

4. Distribution

a. Delivery

i. Zuellig Pharma maintains a monopoly on drug distribution. In 2002, it had net sales of P35.3B (combined for manufacturing, distribution, and marketing). The after tax income was P352M.

[18] Philippine Healthcare Association of the Philippines (PHAP), Philippine Pharmaceutical Industry Factbook, 6th ed. PHAP: Manila, July 2003.

[19] Management Sciences for Health, *Quality Assurance for TB Drugs.* Global Drug Facility: October 2001.

A 2002 customer survey by an international polling group depicted Zuellig Pharma as the industry leader in customer service, earning high ratings in satisfaction. Zuellig Pharma bested its competitors in the areas of supply reliability, inventory capability, and speed of delivery. Through the extensive use of information technology, Zuellig Pharma is able to effectively and efficiently deliver the right goods in the right quantities to its customers in a timely fashion.

It has 11 regional warehouses. Two are in Metro Manila, four are in the other parts of Luzon, two are in Visayas, and three are in Mindanao.

ii. Diethelm Philippines is another well-known drug distribution company; it is partly owned by Unilab.20 It has recently opened a 44-hectare drug distribution facility in an industrial park in Laguna. The improved distribution center has a pallet capacity of 25,000 square meters, and 900,000 boxes in a floor area of 31,000 square meters.

The following is a description of the company's use of technology:

Diethelm's distribution center uses state-of-the-art technology in receiving, storage and distribution.

The warehouse management system (WMS), with the integration of SAP software, manages the movements of materials to specific bin locations such as a tray, shelf, pallet and floor space through the boxes' bar code labels scanned by radio frequency (RF) guns.

The RF guns receive and transfer data through the SAP system, with RF antennas around the warehouse facilitating its signals.

[20] Barretto SL, High-tech warehousing, distribution of pharmaceuticals. BusinessWorldOnline: Philippines, 28-29 May 2004.

Through this, the receipt of goods, creation of shipping documents and inventory counting can be done by simply scanning bar code labels on the boxes and pallet.

The mechanical handling equipment system enables a faster and more accurate processing starting on the receipt of an order that will be categorized as a Loose, Case or Pallet pick according to the order size and ending on the delivery of the boxes to specific end points.

Once a loose pick order is generated, the system will select an appropriate box size where an automated printer will eject a bar code label. The box travels along a conveyor system and is routed to specific zones controlled by a series of bar code reading devices.

As a box enters a zone, display panels indicate its quantity to be acknowledged before it is routed to the next zone. This technology is a first in Southeast Asia.

Aside from full box or case picks, the case mezzanine racker and lifter system is used to replenish the pick to light system.

For each case pick order, a box will be selected from the mezzanine area displayed on the RF gun of the zone's "picker," who will scan the bar code of the box and the location of the zone before placing the box on the conveyor system.

The weight checker ensures that all loose picked items are accurate. The standard weight each item a box contains is read by the system. If the weight is insufficient, the carton is diverted to a special conveyor for manual checking.

The conveyor system guides the box to its destination through a series of bar code scanners. Pneumatic diverters similar to robotic arms push the boxes to the destination where it will either be diverted to replenish the pick to light or travel to end points corresponding to specific delivery locations around the country.

Transfer and receipt of goods is rendered paperless as sales representatives can send reports immediately to the distribution center through a hand-held computer. Signatures of receipt will also be inputted into the machine for convenience and speed of transactions.[21]

iii. Other freight forwarders with experience in distributing drugs :

a) Aboitiz was used by the DOH in its contract distribution system (CDS). However, because it did not have the logistical reach to supply far-flung barangays, its contract was not renewed.

b) Air21 or Federal Express is the present contract distributor of the DOH. To date, the DOH is satisfied with its performance.

b. DOTS centers (public and PPM)

i. Contract distribution system (CDS)

a) With last year's delivery of the GDF drugs, the DOH was able to clear it through customs clearance within two weeks.

b) The CDS has an information system at the central, regional, and local government unit level. Stocks falling below a certain stock level trigger a delivery from the next higher level. Buffer stocks of six and three months are maintained at the central and regional level, respectively. The LGUs also have a three month buffer stock. To date, it has proven itself effective and efficient in supply LGUs with essential drugs.

ii. Storage

a) The DOH has two warehouses: at the San Lazaro Hospital and at the Quirino Hospital compounds. These central stores are large and well-insulated against heat. However, because there are no installed thermometers, it is difficult to assess

[21] Barretto SL, High-tech warehousing, distribution of pharmaceuticals. BusinessWorldOnline: Philippines, 28-29 May 2004.

the ambient temperature in these facilities. Stacking of boxes was too high. The air conditioning was under repair at the time of the visit.

b) In the Cavite provincial warehouse, heat insulation is lacking. As a result, ambient temperature exceeded 30°C during midday. There were also signs of breakage of vials; some drugs had less than six months shelf life before the expiry date.

c) In the health centers, stocks were stored in rooms with no air conditioning. There was no thermometer to determine the suitability of the ambient temperature. The drug stockroom was not locked and allowed free ingress of unauthorized personnel. The existence of a FIFO system of stock control was questionable.

d) Stock or bin cards were not kept and there was no written record of inventory. Since there are no stock cards, it is difficult to tell how often stocks are unavailable and whether there are losses due to theft or expiry.

c. Logistics in PPM DOTS Centers

Summary of important findings and observations:

1. Variations exist in the implementation of policies and procedures especially on the adoption of distribution system for TB drugs. Some of the CHDs or Regional Health Offices prefer to retain CDS for TB drug distribution directly to RHUs and CHOs bypassing PHO.

2. Storage and warehousing system is still a big problem. Adequacy and suitability of warehousing facility are absent in all of the DOTS Centers visited.

3. Most of the TB DOTS centers are still unaware of the TB DOTS package of PhilHealth and the potential benefits they can derive from it.

4. In the NTP monitoring and reporting system currently in place, not all drugs are clearly accounted for

when determining drug volume needed by TB DOTS centers.

5. (Provincial program leadership drives province-wide performance). Most of the TB DOTS centers prefer PHO as the point of TB drug distribution at the local level.

6. Some of the LGUs augment their drug supply (mostly for Category III patients) through local procurement using their own resources but at higher prices compared to the price level of GDF procured drugs.

5. Use

a. Private physicians

i. Physicians

a) In 2001, there were 44,200 doctors in the country. Only 3,000 (7%) work in the government; thus, there are about 41,200 private practitioners. Thirty-seven percent of all doctors are general practitioners, which make up the largest group. Internists make up 17%, pediatrics 14%, obstetricians 11%, and surgeons 10%. Pulmonologists make up 7% of all doctors.

b) It is only in Metro Manila, where the distribution is skewed: only 25% of doctors are GPs. This distribution of the specialists in the Metro Manila is a little higher compared to Luzon, Visayas, and Mindanao.

c) The preferred TB regimens of private doctors have already been described above. In addition, 93% of them are aware of a health facility that offers TB drugs for free.[22]

d) Although 95% of private physicians claim to maintain records on their patients' compliance with

[22] PhilCAT, *Current Trends in TB Management by Private Physicians in the Philippines: A Survey in Five Private Health Settings*, 2002.

their TB medications, most of them limited this monitoring to asking their patients whether they took their medicines.

e) In the Portero and Rubio study, private physicians reported that they did not follow-up their patients. Ninety-eight percent did not trace the defaulters and 91% did not study their contacts.[23]

f) In a survey conducted on six PPM DOTS centers, it was demonstrated that 100% patients in all the centers prescribed the correct DOTS regimen (see Annex 7)

b. Pharmacies

i. In 2003, there were 15,513 drugstores and 1,618 hospital pharmacies of which 1,007 were private and 611 were government. The geographic distribution of the drugstores and pharmacies is shown below:

Table 14. Geographical Distribution of Drugstores in the Philippines

	Metro Manila	**Luzon**	**Visayas**	**Mindanao**	**Total**
Drugstore	2,935	6,869	2,907	2,802	**15,513**
%	*19*	*44*	*19*	*18*	***100***
Private hospital pharmacy	147	464	134	262	**1,007**
%	*15*	*46*	*13*	*26*	***100***
Government hospital pharmacy	63	267	138	143	**611**
%	*10*	*44*	*23*	*23*	***100***
Total	**3,145**	**7,600**	**3,179**	**3,207**	**17,131**

ii. In a survey of private pharmacies, the following were reported:

a) Knowledge of TB and TB DOTS

1) Most pharmacists and pharmacy assistants (PA) do not know how TB is transmitted.

[23] Portero and Rubio, 2002.

2) Most of them think CXR is the main diagnostic procedure for TB.
3) Only 50% know the correct duration of treatment for TB.
4) Less than 20% have heard of TB DOTS.

b) Pharmacy dispensing practices
1) Half of the pharmacists and PA sold TB drugs to patients even without a prescription.
2) Between 60-80% of patients have requested the pharmacists to 'modify' their doctor's prescription (increase or reduce the number and quantity of drugs).
3) Less than 10% of pharmacists provide counseling (how to take medication, compliance with recommended dosage, length of treatment, consequences of not taking drug regularly, side effects of drug) to their patients.
4) About 60% of pharmacies referred TB patients to private doctors, while 16% referred them to RHUs.

c) Client buying practices
1) About half of clients thought that generic drugs were of poorer quality.
2) Most clients bought only a week's supply of TB drugs.

d) Client perceptions
1) Half of the patients think the cost of TB drugs were expensive.
2) About a third of pharmacists and PA think that social stigma is a factor in making clients hesitant in asking for or buying TB drugs.

e) Providers' prescription practices
1) About a third of attending physicians tend to prescribe only a month's supply of TB drugs.

The above findings notwithstanding, it should be noted that the pharmacy study did not appear to be properly statistically weighted. In addition, many of the findings ask only about the perceptions or opinions of pharmacists and

PA about the behavior and intention of patients and physicians. This is not the same as measuring their behavior and intention themselves.

c. Patients

i. TB KAP in DOTS center

1) 80% of DOTS center patients knew about the center from their attending physician, while 12% learned about it from a relative, friend, or neighbor
2) More than two-thirds remember that they were given educational materials on TB since they started treatment
3) Only 58% remembered being given lectures or seminars on TB during enrolment

ii. Patient satisfaction in DOTS center

1) Almost all were able to receive the services they sought
2) Almost all felt that they spent just the right amount of time for consultation, although 11% felt the waiting time to be too long
3) Majority of the patients were satisfied with their health provider
4) 88% of patients said that the health provider explained their illness to them
5) 90% felt that they had enough privacy during the consultation
6) 75% said the health provider or treatment provider involved them in making decisions about their treatment
7) Most found the explanation easy to understand
8) Most found the hours of the facility convenient for them
9) 86% found the cost of the treatment acceptable

iii. Patient enablers and incentives

a) An enabler is a stimulus applied to a patient (or provider) to motivate him to greater participation in the DOTS approach. An incentive is a stimulus intended to motivate patients (or providers) to behave in a desired way or to perform a desired action.[24]
b) Many DOTS programs worldwide have recognized and used enablers and incentives to increase program performance and outcomes.
c) The current evidence on enablers and incentives in DOTS programs reveal:
    1) In lower-burden countries, enablers and incentives can improve patient adherence to treatment
    2) In higher-burden countries, enablers and incentives have not been validly evaluated.
    3) Enablers and incentives, to be effective, should be linked to patient adherence and/or provider performance
    4) Patient incentives may include money, food, and transportation allowances.
    5) Improvement in the quality of the elements of DOTS implementation is in itself an enabler
    6) Unintended and perverse effects may result from the use of enablers and incentives and should be avoided.

C. FINANCING

Procurement of TB drugs for public DOTS centers are mainly financed by the Department of Health through its National Tuberculosis Program budget. Private DOTS centers on the other hand, centers are getting their supply of TB drugs for their patients free of charge through grants from the Global Drug Facility or GDF and the Global Fund to Fight AIDS, TB and Malaria or GFATM. These grants are all channeled through the network of delivery and administrative infrastructure of the Department of Health. Also, the National Health Insurance Program is giving additional support for TB DOTS centers in the management of TB patients through its TB-DOTS benefit package.

[24] Stop TB/WHO, MSH/RPM Plus, and World Bank, *Enhancing DOTS performance: The role of enablers and incentives.* USAID, Stop TB, and World Bank: March 2004.

Table 15. Summary of TB Drug Financing Sources and Target Number of Cases+

Year	GFATM Grant	GDF Grant	SEMP 2 Loan*	Total
2003		5,000		5,000
2004		16,000	150,000	166,000
2005		50,000	300,000	350,000
2006	50,000			50,000
2007	50,000			50,000
Total	100,000	71,000	450,000	621,000

* Through GDF Procurement Facility, as budgetary support for the NTP of the DOH

+ Does not take into account TB drug financing sources from purely GOP money

1. GRANTS: GDF AND GFATM

Global Drug Facility

The Department of Health applied for the grant offered by Global Drug Facility or GDF along with the terms and conditions of support specified by GDF[25]:

- o TB drugs are provided free of charge to patients using the DOTS protocol
- o Public sector funding for TB control activities will not be reduced as a consequence of, or during the period that GDF grants are received.
- o Co-financing and technical cooperation are available from other governments/donors for non-drug aspects of the multi-year plan (including DOTS expansion)

Initially, the grant application of the Philippines through the Department of Health has been approved for a period of one year (2003), with the intention of continued support for an additional two years (2004 and 2005). Supply of drugs for the second and third years of support does not require resubmission of an application but is dependent on submission of reports on case finding and treatment outcomes for patients treated in DOTS programmes and a satisfactory annual report from an independent monitoring agency which will among other things, assess financial flows for TB, drug management, programme performance and adherence to GDF terms and conditions of support.

[25] From an official communication from Dr. J.W., Lee, Director of Stop TB, WHO to Undersecretary Alexander Padilla, Office of External Affairs, DOH.

Philippines is currently receiving fixed dose combination (FDC) TB drugs from GDF good for 3 years, from 2003 to 2005. This is on top of what the Department of Health is procuring from its own budget. This is intended to cover supply of TB drugs for accredited private DOTS centers. A total of more than 70 thousand private cases have been targeted by the Department of Health to receive complete course of TB drugs from the accredited DOTS facilities in the country. Starting with a TB drugs supply for 5 thousand cases, the grant has significantly increased its support for private DOTS centers and supplying TB drugs for 50 thousand cases for the year 2005.

Year	Target Number of Cases
2003	5,000
2004	16,000
2005	50,000
Total	71,000

The Department of Health (DOH) is currently expanding the distribution of TB drugs for patients of private DOTS centers. For these private facilities to avail of the TB drugs from the health agency through the NTP, these must however be accredited DOTS providers. In addition, these private facilities must also submit the official NTP quarterly report to the local public health office (City Health Office or Municipal Health Office).

Global Fund to fight AIDS, Tuberculosis and Malaria

Sustainable financing is also secured through the GFATM until 2007. The purpose of the Global Fund to Fight AIDS, Tuberculosis and Malaria or GFATM is to attract, manage and disburse additional resources through a public-private partnership. Under the GFATM, the major component of the TB Program considers the Public-Private Mix or PPM approach which expands the coverage to include the private sector that is also managing TB cases.

From the approved GFATM, the National TB Program can acquire drugs for years 2005 to 2006 which is good for 100,000 TB cases. According to NTP of the Department of Health, through its Director, Dr. Jimmy Lagahid, reallocation of the drugs coming

from GFATM was set to 2006 to 2007 instead, good for 50 thousand cases each year. To date, approximately more than 1.3 million USD have been disbursed to the Tropical Disease Foundation[26] out of the total grant amount of 3. 4 million USD[27].

2. NATIONAL TUBERCULOSIS PROGRAM BUDGET

NTP

The Philippine Government finances its National Tuberculosis Program through the annual budgeting process under General Appropriations Act (GAA). The specific budget line item from where TB drugs are sourced is the National Tuberculosis Program (NTP) under the Office of the Secretary, Department of Health. On the average, the NTP annual budget is approximately PhP 200 million[28] and almost 80 percent of these are for drugs and financing of activities to increase case detection and cure rates[29]. According to the WHO Report 2004[30], the Philippines had a budget for the NTP in the amount of 6.1 and 6.5 million USD, for 2002 and 2003, respectively. For the year 2005, NTP has already indicated in their work and financial plan a proposed budget of about 200 to 250 million pesos or about 4.5 million USD. Most of the budget was for drug procurement and financing of activities to increase case detection and cure rates. (Please refer to Annex 5 for a 10-year trend of NTP Budget).

Currently, TB drugs are procured centrally from the Department of Health and distributed to the regional offices. The regional offices are in-charge of distributing the drugs to the Local Government Units (or the Provincial and Municipal or City Level). For a three-year period (2001 to 2003), the government is assured of TB drugs through financing from the SEMP 2 loan from World Bank. With only less than a million US dollars in 2001, budget allocation for TB drugs has significantly increased to more than 4 million US dollars in the subsequent two years (2002-2003).

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[26] The principal recipient for the Philippines

[27] Figures taken from Global Fund Grants – Progress details (Rounds 1-3) as of 24 March 2004.

[28] Save for two years, 2001 and 2002, where the budget for TB Control is at the lowest (at least from year 1994) because of budgetary transfer of funds for TB drugs at the different Regional Health Offices.

[29] Department of Health and World Health Organization (WHO). 2002. Joint Tuberculosis Programme Review. 18-17 July 2002.

[30] WHO Report 2004. Global Tuberculosis Control: Surveillance, Planning, Financing. WHO, Geneva.

According to the estimates from the 2002 Joint Tuberculosis Programme Review (by the DOH and WHO), there is no funding gap for the procurement of TB drugs based on projected number of cases from 2001 to 2005. The total budget need for TB drugs for the five-year period is approximately 16.6 million pesos.

World Bank SEMP Loan

Because of the Philippine government's constrained budget, the Department of Health relies on budget support from a World Bank program loan called Social Expenditure Management Program (SEMP) since 2001. It currently supports the budget of selected line agencies of the government like the Department of Health. The loan money from SEMP is directly funding procurement of goods including TB drugs together with other goods such as vaccines for the Expanded Program on Immunization, and Rabies vaccines for the Rabies Control Program. Current agreement between the Department of Health and the World Bank through the Department of Budget and Management stipulates the DOH will continue to get funding support for the procurement of TB drugs through SEMP loan until this year (2004).

Under the WB's SEMP2, procurement of TB drugs in fixed dose combination (FDC) through the Global Drug Facility will continue to benefit 150,000 TB cases for year 2004 and the same number for 2005[31]. Procurement for 2006 requirement will be on April 2004 which is good also for 150,000 cases.

As per documents from the Bureau of International Health Cooperation of the Department of Health, the government has already made payment to GDF a little less than a million USD ($0.88 Million) in 2001 and about 4.6 million USD good for a two-year period, 2002 to 2003.

GDF procurement

GDF is also providing procurement services for high burden countries like the Philippines in securing sustainable supply of

[31] From a Presentation by Undersecretary Osorio of the Department of Finance to the Second Stop TB Partners' Forum, New Delhi, India, March 2004.

quality and inexpensive TB drugs. It utilizes the UNDP Inter-Agency Procurement Service Office (IAPSO) to procure drugs in the international market for the DOH. Under this scheme, the Department of Health need not procure TB drugs locally, thereby reducing the risk of buying low quality, expensive drugs. Through the GDF, the Department of Health has been able to procure TB drugs for as low as 10 USD per patient. This reduced the cost of treatment by two-thirds (from PhP 1,500 to PhP 600 per patient). At present, the DOH is employing this procurement system to procure TB drugs using funds from SEMP loan.

Year	Target Number of Cases	Date of delivery
2002-2003	300,000	May 2004 (50%) January 2005 (50%)
2004	150,000	July 2005

3. SOCIAL HEALTH INSURANCE: TB BENEFIT PACKAGE

PhilHealth is a tax-exempt government corporation mandated to provide accessible quality health care services to all its members through the management of the National Health Insurance Program. In its effort to improve and expand benefits for members, it has recently developed and implemented the TB Benefit Package. It is based on case payment financing scheme. Accredited DOTS centers (both private and public) will be reimbursed with a fixed amount of PhP 4,000 pesos for each TB patient that underwent complete treatment in two batches of reimbursement/payment from PhilHealth[32].

In pursuit of benefit expansion through TB-DOTS, PhilHealth issued Circular No. 17 in March 2003 on "Accreditation of DOTS Facilities" as providers of the outpatient DOTS package. Subsequently, PhilHealth issued Circular No. 19 in May 2003 on "PhilHealth Outpatient TB-DOTS Benefit Package" to provide its members and dependents the benefit of quality DOTS services through certified and accredited DOTS facilities. The TB-DOTS Benefit Package pays the amount of PhP 4,000 per case to an accredited DOTS facility that rendered the appropriate DOTS services. This includes services for diagnostic work-up, consultation

[32] The first payment of PhP 2,500 shall be paid after the completion of the intensive phase treatment and the remaining PhP 1,500 shall be paid at the end of maintenance phase.

services, and TB drugs which the patient requires in an outpatient set-up. Additional guidelines for processing of TB-DOTS Package Claim Application have been issued by PhilHealth through Circular No. 36 in October 2003.

Based on the estimates of a study commissioned by PhilTIPS[33], the PhP 4,000-support value is not enough for each patient who seeks treatment in private DOTS centers. This is considered small based on a selective canvass of professional fees and retail drug prices in Metro Manila. This observation was corroborated by another study[34] in 1999 where the prices of one anti-TB drug[35] ranges from PhP 440.00 to as much as PhP 1,999.70.

V. Conclusions, Problems Identified, and Options

The epidemiology of TB patients is clearly known only for the urban poor, but there is evidence to suggest that the urban and rural populations are similar with regards to TB disease patterns. Thus, the following statements probably apply to all poor, TB patients.

About 34% of the 82.7M Filipinos or about 28.1M Filipinos are considered poor. About 18.8M (67/100 population) have been exposed to TB, although not all are symptomatic. Active TB, as defined by a positive CXR, is present in 1.7M (60/1000 population) poor Filipinos. About 420,000 (15/1000 population) of the poor patients are culture (+), while about 197,000 (7/1000 population) are sputum (+). The incidence rate among the poor is about 8.2/1000 population per year. The annual risk of infection is 6.5% of uninfected individuals per year. Among the poor population, each TB case infects about 10 other cases during the course of one year.

About 35% of 420,000 (or 147,000) poor patients with bacillary disease consult a private health professional. About 92,000 or 22% of these poor, private TB patients self-medicate and probably go to a pharmacy. On the other hand, 55,000 go see a private physician either in a hospital or in a clinic. It is also important to note, that an approximately equal number of poor TB patients (143,000) take no

[33] Philippine Tuberculosis Initiatives for the Private Sector (PhilTIPS). 2003. A Policy Analysis of Private Sector Participation in DOTS. Chemonics International, Inc.
[34] Solon and Bauzon. 1999. Competition Promotion and the Prices of Drugs and Medicines. Public Policy 3 (3): 90-106.
[35] Domestic retail price of Rifampicin 450 mg/capsule 100's box

action at all. These could potentially add to demand for TB care if health education efforts are successful.

Given the available resources for TB financing and assuming that there is no substantial increase in detection of TB cases, there are indications that funding for TB drugs, both private and public DOTS centers, will be adequate for at least up to 2007.

These appear to be the problems facing the drug management of TB drugs and possible policy options for dealing with them:

PROBLEMS IDENTIFIED	OPTIONS
1. Many commercial TB drug preparations are available, increasing the likelihood of inappropriate prescribing and dispensing.	Cancel or do not renew the Certificates of Product Registration (CPR) of non-compliant TB drug preparations.
2. The quality of locally manufactured TB drugs cannot be assured because of the weak regulatory capabilities of the BFAD.	Continue procuring from the GDF through its procurement services facility
3. Local TB drug products are either expensive or of poor quality compared to drugs procured by the Philippines from the GDF. The cost of treatment for a category 1 patient is expensive. It would cost P14,500 or 52 days of a worker's salary (at minimum wage) to purchase a complete regimen 1.	Continue procuring from the GDF through its procurement services facility
4. Although delivery through the private freight forwarder has improved, other aspects of the distribution system appear problematic: Order-receipt discrepancies are prevalent, storage is inadequate, and inventory control systems are weak.	• Improve information flow between the PHO and the freight forwarder • Explore the use of a private logistics company to take over the whole distribution system: delivery, storage, and inventory management
5. Financing for TB drugs to cover the requirements beyond 2007 is not secured.	Implement multi-year TB budgeting, with performance-based monitoring systems to trigger annual appropriation and release of funds.

PROBLEMS IDENTIFIED	OPTIONS
6. A significant proportion of doctors are unaware of the DOTS approach to TB. In addition, they practice a wide variation of TB treatment regimens.	Possible educational interventions include:[36] • Prescriber education • Printed materials • Approaches based on face-to-face contact • Influencing opinion leaders
7. Weak demand due to low CDR. Because the TB drugs were ordered with a 100% buffer and all the purchased drugs arrived on time, the Philippines will have excess supply starting 2005.	Increase case detection through: • Use of provider and patient enablers and incentives • Detection of patients who do not seek medical care • Detection of patients who go to private facilities and are unreported • Detection of patients who are undiagnosed or misdiagnosed
8. Among private practitioners, defaulter- and contact tracing are not usually practiced.	Continue to establish PPM DOTS linkages
9. Private pharmacies are not knowledgeable about DOTS, dispense TB drugs without a prescription, do not provide counseling, and infrequently refer their patients to RHUs.	Expand PhilTIPS pharmacy DOTS initiative program

[36] Management Sciences for Health. *Managing Drug Supply, 2nd ed.* Kumarian Press: USA, 1997.
[38] 5,000 pesos

Annex 1—Summary of Key Issues

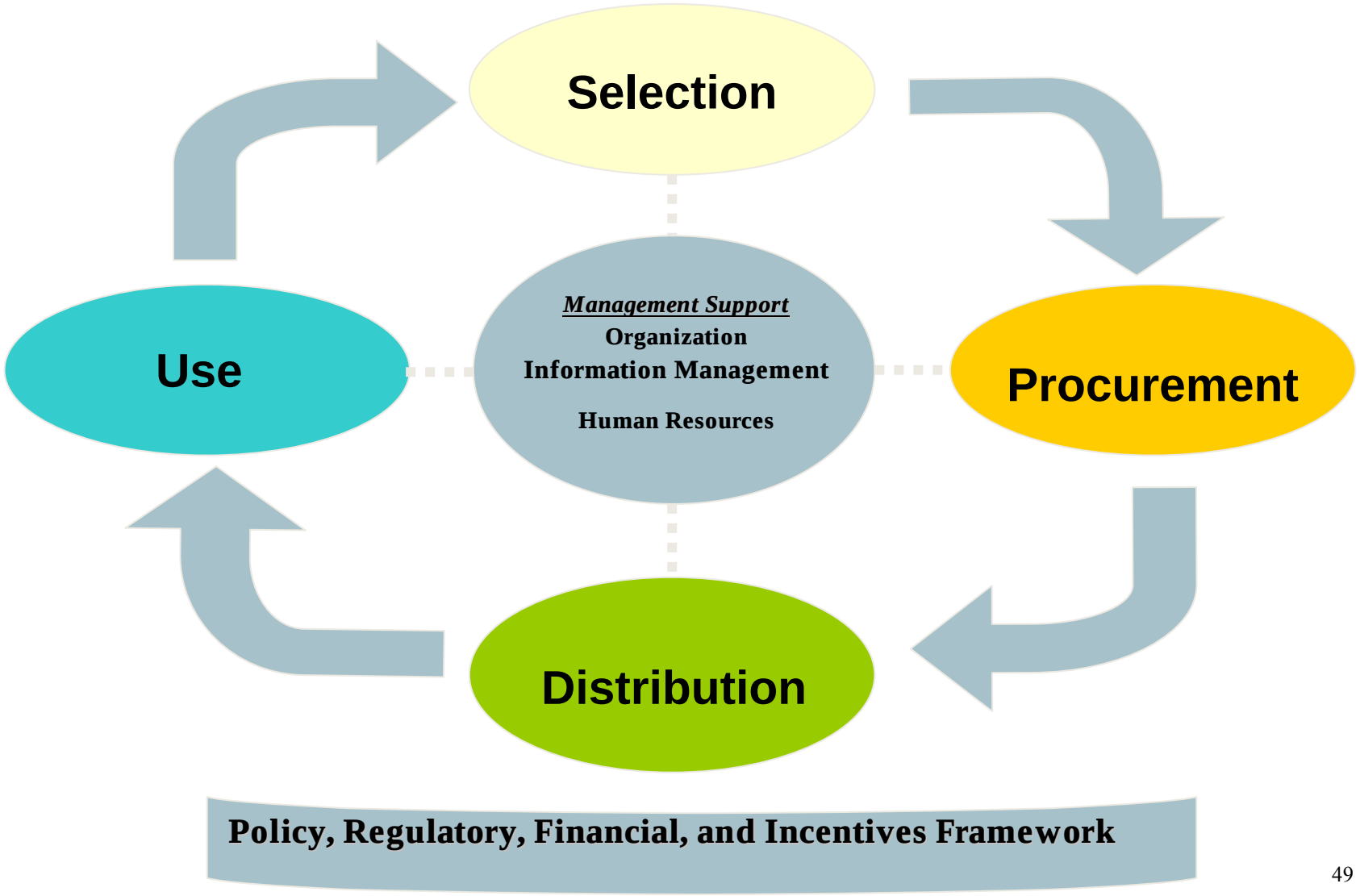
Components	Policy Question	Key Issues	Data Collection Techniques
Rational Selection and Use	• What are the most effective ways to get private physicians to adhere to the STG for DOTS?	• What anti-TB regimens do private physicians currently use?	• Literature review • Telephone survey of physicians
		• What is the proportion of private physicians who are not aware of the standard treatment guidelines for TB and what are their characteristics?	• Literature review • Telephone survey of physicians
		• What is the proportion of private physicians who are prescribing non-standard anti-TB regimens and what are their characteristics?	• Literature review
		• What proportion of physicians prescribes in generic name?	• Literature review
		• What are patient knowledge, attitude, and practices regarding the use of TB drugs?	• Literature review
		• What is the level of patient adherence to DOTS therapy?	• Literature review
	• What factors promote patient satisfaction with DOTS?	• What are the most effective methods to promote patient satisfaction with DOTS?	• Literature review
Reliable Procurement and Distri-	• What are the most cost-effective pro-	• What volume and value of TB drugs will private physicians need in the next five years? • What is existing volume and value of TB drugs in DOTS centers?	• Computation • Record review

Components	Policy Question	Key Issues	Data Collection Techniques
bution Systems	curement methods to secure TB drugs for private patients?	• What is the value of the top-selling anti-TB drug products on the market?	• IMS data
		• What is the price range of TB drugs?	• MIMS data
		• What is the proportion of TB drugs that failed quality testing?	• BFAD records
		• What is the local capacity to manufacture quality and affordable TB drugs? • What are the international sources of TB drugs?	• MIMS data • Internet search • Key informant interviews (KII) of local drug company representatives
		• What are the most cost-effective methods to supply the TB drug distribution points?	• Literature review • Key informant interviews of pharmacy owners
		• What is the existing wholesale and retail distribution system for TB drugs for private patients?	• Key informant interviews
		• Where do private TB patients get their supply of TB drugs? What are the characteristics of these supply points?	• Survey of private TB patients • Literature review
		• What is the status of the supply management of TB drugs in both public and private DOTS centers?	• Observation of public and private DOTS centers
	What are the most effective distribution strategies for TB drugs to the private sector?	• What are the dispensing practices at pharmacies for TB drugs?	• Simulated client interview of pharmacies • Literature review
		• What proportion of physicians dispenses drugs in their clinics?	• Literature review
		• What are the frequency, value, and duration of purchase of TB drugs by private patients?	• Survey of private TB patients

Components	Policy Question	Key Issues	Data Collection Techniques
		• What are the most commonly available anti-TB drug preparations in pharmacies?	• Survey of pharmacies
		• What is the value of TB drugs sold in private pharmacies?	• IMS data
		• What are the different distribution strategies for private, NGO, and public drug distribution points for private TB patients?	• Key informant interviews of DOTS center supply officers
		• How satisfied were patients of their last visit to the DOTS center? To their private physician for TB follow-up?	• Survey of TB patients
Affordability and Sustainable Financing	• What are financing options for TB drugs to private DOTS center?	• DOH o Does the DOH plan to negotiate another grant of funds for the private sector with GDF? o What has been the trend of public (DOH) financing for TB drugs over the years? • GDF o What are the terms and conditions of the three-year GDF grant of o funds to the private sector? Does the GDF policy support grants to private sector? o How will the Philippines finance future Global Drug Facility (GDF) procurement of TB drugs for private DOTS centers? • PHIC o What is the current level of private DOTS center reim-	• Key informant interview of DOH officials, which includes managers of the National Tuberculosis Program. • DOH budget for TB program review from GAA • Document review of GDF official documents (on operating principles, governance and management, operations and procurements) • Key informant interview of DOH officials

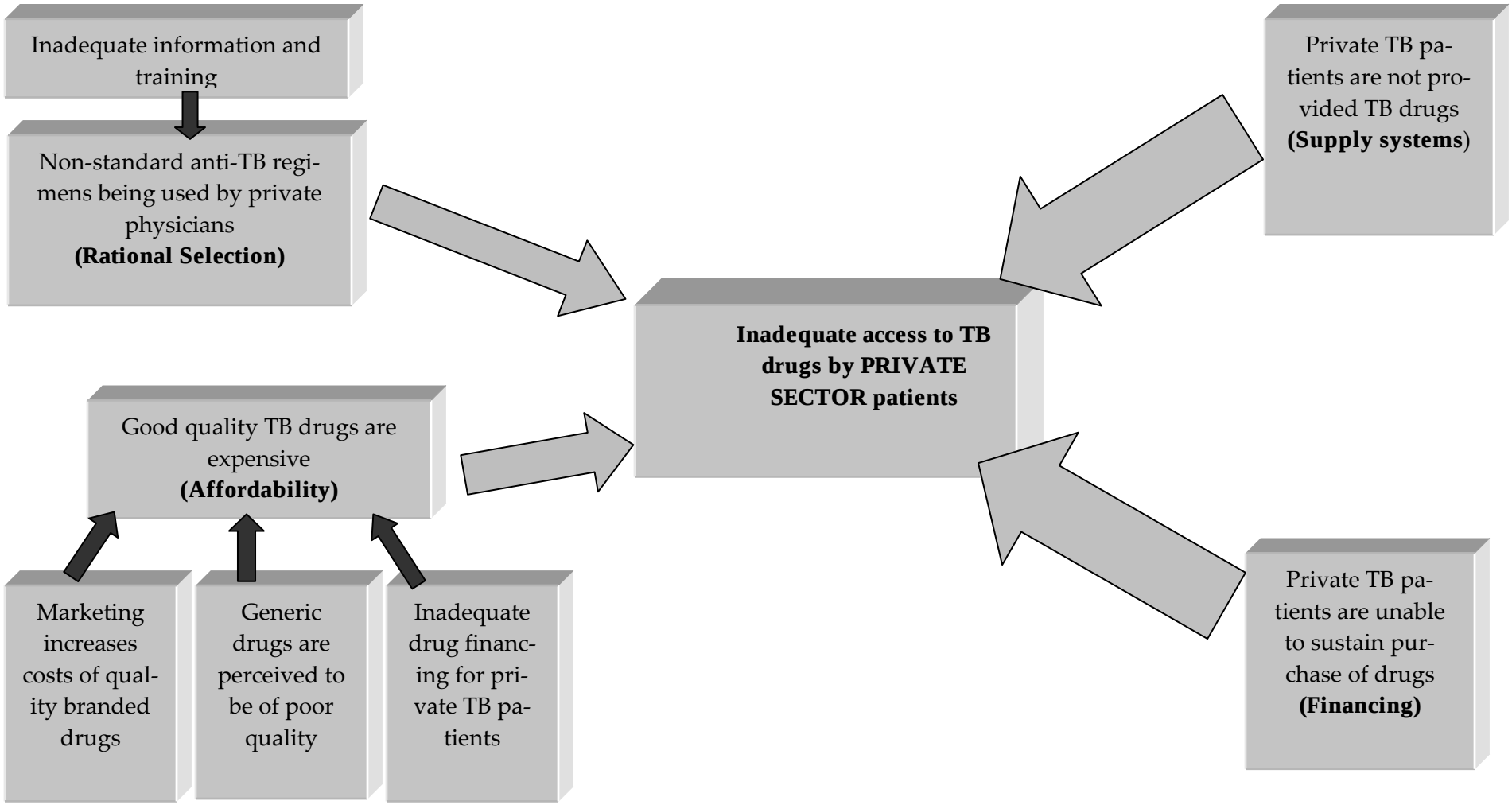
Components	Policy Question	Key Issues	Data Collection Techniques
		bursement from the PHIC TB benefit package? o With PhilHealth as a market-making health purchasing authority, what is their price referencing criteria? (e.g., benchmarking to same-income countries, affordability for patients, affordability for PHIC, in between GDF and commercial contracts) o What are possible design strategies for the inclusion of private DOTS centers in the PHIC outpatient TB package?	• Secondary data review from PHIC reimbursement claims • Key informant interview of PHIC Claims office substantiated by PHIC official policy issuances
		• Others o What other institutions can finance service provision? Local charitable institutions? International donors?	• Key informant interview • (For Sasha)

Annex 2--Drug Management Cycle



Annex 3—A flow chart review of the TB drug supply agenda

1. Overarching Theme—Drug supply in private DOTS centers
2. Problem—Inadequate access to TB drugs by patients seen by private physicians
3. Definition
   - Access to drugs is defined through five attributes: physical availability, geographic accessibility, affordability, acceptability (or quality), and accommodation (or patient satisfaction).
4. Model



ANNEX 4. TUBERCULOSIS DRUG NEEDS (2005-09)

ALL PATIENTS

		PROJECTED # EPISODES					REGIMEN					
PATIENT CATEGORY	**AGE GROUP**	**2005**	**2006**	**2007**	**2008**	**2009**		**DRUG PRODUCTS**	**BASIC UNIT**	**BASIC UNIT PER DAY**	**NUMBER OF DAYS**	**BASIC UNITS PER EPISODE**
1	>=20	212,288	218,164	224,203	230,410	236,787	2HRZE/4HR	HRZE	tab	3	56	168
								HR	tab	3	112	336
2	>=20	18,196	18,700	19,217	19,749	20,296	2HRZES/1HRZE/ 5HRE	HRZE	tab	3	84	252
								S	vial	1	56	56
								water for injection	vial	1	56	56
								HR	tab	3	140	420
								E	tab	3	140	420
3	11-19 y.o.	20,234	20,794	21,370	21,961	22,569	2HRZ/4HR	HR	tab	2	168	336
								Z	tab	1	56	56
	>=20	52,478	53,930	55,423	56,957	58,534	2HRZE/4HR	HRZE	tab	3	56	168
								HR	tab	3	112	336
	TOTAL	**303,196**	**311,589**	**320,214**	**329,077**	**338,187**						

ALL PATIENTS

		BASIC UNITS NEEDED						TOTAL VALUE ($)				
PATIENT CATEGORY	**AGE GROUP**	**2005**	**2006**	**2007**	**2008**	**2009**	**UNIT PRICE ($, 2003)**	**2005**	**2006**	**2007**	**2008**	**2009**
1	>=20	35,664,403	36,651,623	37,666,170	38,708,800	39,780,292	0.033	1,176,925	1,209,504	1,242,984	1,277,390	1,312,750
		71,328,805	73,303,245	75,332,339	77,417,601	79,560,583	0.013	927,274	952,942	979,320	1,006,429	1,034,288
2	>=20	4,585,423	4,712,351	4,842,793	4,976,846	5,114,609	0.033	151,319	155,508	159,812	164,236	168,782
		1,018,983	1,047,189	1,076,176	1,105,966	1,136,580	0.054	55,025	56,548	58,114	59,722	61,375
		1,018,983	1,047,189	1,076,176	1,105,966	1,136,580						
		7,642,372	7,853,919	8,071,322	8,294,743	8,524,348	0.013	99,351	102,101	104,927	107,832	110,817
		7,642,372	7,853,919	8,071,322	8,294,743	8,524,348	0.013	993,508	1,021,009	1,049,272	1,078,317	1,108,165
3	11-19 y.o.	2,266,218	2,328,949	2,393,416	2,459,668	2,527,753	0.013	29,461	30,276	31,114	31,976	32,861
		1,133,109	1,164,474	1,196,708	1,229,834	1,263,877	0.015	16,997	17,467	17,951	18,448	18,958
	>=20	8,816,240	9,060,281	9,311,077	9,568,815	9,833,688	0.033	290,936	298,989	307,266	315,771	324,512
		17,632,481	18,120,562	18,622,154	19,137,631	19,667,376	0.013	229,222	235,567	242,088	248,789	255,676
	TOTAL						**TOTAL VALUE ($)**	**3,970,019**	**4,079,912**	**4,192,847**	**4,308,909**	**4,428,183**
							TOTAL VALUE (P)	**222,321,044**	**228,475,074**	**234,799,452**	**241,298,893**	**247,978,245**

Assumptions:

1. Children are given standard regimen 3 (2HRZ/4HR).
proportion of category 3 patients that are children = 28%
2. Relative proportions of patients in each treatment category
category 1 = 0.7
category 2 = 0.6
category 3 = 0.24
3. Annual population growth rate is constant at = 0.0191
4. Since the TB annual risk of infection (ARI) among uninfected individuals is 2.3%, the ARI in the general population = 0.00842
5. For adults, average weight is assumed to be in the 38-54 kg band. The average weight of children is assumed to be in the 10-14 kg band.
6. GDF prices for 2003 are used and assumed to be constant until 2009.
7. Peso-dollar exchange rate is P56:$1.
8. proportion of TB patients that are in the private sector =
9. FDC will be the sole drug preparation used for DOTS.
10. Projected population in 84,241,314

PRIVATE SECTOR

		PROJECTED # EPISODES					REGIMEN					
PATIENT CATEGORY	**AGE GROUP**	**2005**	**2006**	**2007**	**2008**	**2009**		**DRUG PRODUCTS**	**BASIC UNIT**	**BASIC UNIT PER DAY**	**NUMBER OF DAYS**	**BASIC UNITS PER EPISODE**
1	>=20	74,513	76,576	78,695	80,874	83,112	2HRZE/4HR	HRZE	tab	3	56	168
								HR	tab	3	112	336
2	>=20	6,387	6,564	6,745	6,932	7,124	2HRZES/1HRZE/ 5HRE	HRZE	tab	3	84	252
								S	vial	1	56	56
								water for injection	vial	1	56	56
								HR	tab	3	140	420
								E	tab	3	140	420
3	11-19 y.o.	7,102	7,299	7,501	7,708	7,922	2HRZ/4HR	HR	tab	2	168	336
								Z	tab	1	56	56
	>=20	18,420	18,930	19,454	19,992	20,545	2HRZE/4HR	HRZE	tab	3	56	168
								HR	tab	3	112	336
	TOTAL	**106,422**	**109,368**	**112,395**	**115,506**	**118,703**						

PRIVATE SECTOR

		BASIC UNITS NEEDED						TOTAL VALUE ($)				
PATIENT CATEGORY	**AGE GROUP**	**2005**	**2006**	**2007**	**2008**	**2009**	**UNIT PRICE ($, 2003)**	**2005**	**2006**	**2007**	**2008**	**2009**
1	>=20	12,518,205	12,864,720	13,220,826	13,586,789	13,962,882	0.033	413,101	424,536	436,287	448,364	460,775
		25,036,411	25,729,439	26,441,651	27,173,578	27,925,765	0.013	325,473	334,483	343,741	353,257	363,035
2	>=20	1,609,484	1,654,035	1,699,820	1,746,873	1,795,228	0.033	53,113	54,583	56,094	57,647	59,243
		357,663	367,563	377,738	388,194	398,939	0.054	19,314	19,848	20,398	20,962	21,543
		357,663	367,563	377,738	388,194	398,939						
		2,682,473	2,756,726	2,833,034	2,911,455	2,992,046	0.013	34,872	35,837	36,829	37,849	38,897
		2,682,473	2,756,726	2,833,034	2,911,455	2,992,046	0.013	348,721	358,374	368,294	378,489	388,966
3	11-19 y.o.	795,443	817,461	840,089	863,343	887,241	0.013	10,341	10,627	10,921	11,223	11,534
		397,721	408,731	420,045	431,672	443,621	0.015	5,966	6,131	6,301	6,475	6,654
	>=20	3,094,500	3,180,159	3,268,188	3,358,654	3,451,625	0.033	102,119	104,945	107,850	110,836	113,904
		6,189,001	6,360,317	6,536,376	6,717,308	6,903,249	0.013	80,457	82,684	84,973	87,325	89,742
	TOTAL						**TOTAL VALUE ($)**	**1,393,477**	**1,432,049**	**1,471,689**	**1,512,427**	**1,554,292**
							TOTAL VALUE (P)	**78,034,687**	**80,194,751**	**82,414,607**	**84,695,912**	**87,040,364**

Assumptions:

1. Children are given standard regimen 3 (2HRZ/4HR).
proportion of category 3 patients that are children = 28%
2. Relative proportions of patients in each treatment category
category 1 = 0.7
category 2 = 0.6
category 3 = 0.24
3. Annual population growth rate is constant at = 0.0191
4. Since the TB annual risk of infection (ARI) among uninfected individuals is 2.3%, the ARI in the general population = 0.00842
5. For adults, average weight is assumed to be in the 38-54 kg band. The average weight of children is assumed to be in the 10-14 kg band.
6. GDF prices for 2003 are used and assumed to be constant until 2009.
7. Peso-dollar exchange rate is P56:$1.
8. proportion of TB patients that are in the private sector =
9. FDC will be the sole drug preparation used for DOTS.
10. Projected population in 84,241,314

ANNEX 5. TUBERCULOSIS DRUG EFFECTIVE DEMAND (2005-09)

ALL PATIENTS

		PROJECTED # EPISODES					REGIMEN					
PATIENT CATEGORY	**AGE GROUP**	**2005**	**2006**	**2007**	**2008**	**2009**		**DRUG PRODUCTS**	**BASIC UNIT**	**BASIC UNIT PER DAY**	**NUMBER OF DAYS**	**BASIC UNITS PER EPISODE**
1	>=20	159,216	163,623	168,153	172,807	177,591	2HRZE/4HR	HRZE	tab	3	56	168
								HR	tab	3	112	336
2	>=20	13,647	14,025	14,413	14,812	15,222	2HRZES/1HRZE/5HRE	HRZE	tab	3	84	252
								S	vial	1	56	56
								water for injection	vial	1	56	56
								HR	tab	3	140	420
								E	tab	3	140	420
3	11-19 y.o.	15,176	15,596	16,027	16,471	16,927	2HRZ/4HR	HR	tab	2	168	336
								Z	tab	1	56	56
	>=20	39,358	40,448	41,567	42,718	43,900	2HRZE/4HR	HRZE	tab	3	56	168
								HR	tab	3	112	336
	TOTAL	**227,397**	**233,691**	**240,160**	**246,808**	**253,640**						
						1,201,697						

ALL PATIENTS

		BASIC UNITS NEEDED						TOTAL VALUE ($)				
PATIENT CATEGORY	**AGE GROUP**	**2005**	**2006**	**2007**	**2008**	**2009**	**UNIT PRICE ($, 2003)**	**2005**	**2006**	**2007**	**2008**	**2009**
1	>=20	26,748,302	27,488,717	28,249,627	29,031,600	29,835,219	0.033	882,694	907,128	932,238	958,043	984,562
		53,496,604	54,977,434	56,499,255	58,063,200	59,670,438	0.013	695,456	714,707	734,490	754,822	775,716
2	>=20	3,439,067	3,534,264	3,632,095	3,732,634	3,835,957	0.033	113,489	116,631	119,859	123,177	126,587
		764,237	785,392	807,132	829,474	852,435	0.054	41,269	42,411	43,585	44,792	46,031
		764,237	785,392	807,132	829,474	852,435						
		5,731,779	5,890,439	6,053,492	6,221,057	6,393,261	0.013	74,513	76,576	78,695	80,874	83,112
		5,731,779	5,890,439	6,053,492	6,221,057	6,393,261	0.013	745,131	765,757	786,954	808,737	831,124
3	11-19 y.o.	1,699,664	1,746,712	1,795,062	1,844,751	1,895,815	0.013	22,096	22,707	23,336	23,982	24,646
		849,832	873,356	897,531	922,375	947,908	0.015	12,747	13,100	13,463	13,836	14,219
	>=20	6,612,180	6,795,211	6,983,308	7,176,612	7,375,266	0.033	218,202	224,242	230,449	236,828	243,384
		13,224,361	13,590,422	13,966,616	14,353,223	14,750,532	0.013	171,917	176,675	181,566	186,592	191,757
	TOTAL						**TOTAL VALUE ($)**	**2,977,514**	**3,059,934**	**3,144,636**	**3,231,682**	**3,321,137**
							TOTAL VALUE (P)	**166,740,783**	**171,356,305**	**176,099,589**	**180,974,170**	**185,983,684**

Assumptions:

1. Children are given standard regimen 3 (2HRZ/4HR).
proportion of category 3 patients that are children = 28%
2. Relative proportions of patients in each treatment category
category 1 = 0.7
category 2 = 0.6
category 3 = 0.24
3. Annual population growth rate is constant at = 0.0191
4. TB annual risk of infection, probability of the uninfected acquiring TB = 0.023
5. For adults, average weight is assumed to be in the 38-54 kg band. The average weight of children is assumed to be in the 10-14 kg band.
6. GDF prices for 2003 are used and assumed to be constant until 2009.
7. Peso-dollar exchange rate is P56:$1.
8. proportion of TB patients that are in the private sector = 0.351
9. FDC will be the sole drug preparation used for DOTS.
10. Projected population in 84,241,314 56
11. Effective demand is equal to target CDR = 0.75

PRIVATE SECTOR

		PROJECTED # EPISODES					REGIMEN					
PATIENT CATEGORY	**AGE GROUP**	**2005**	**2006**	**2007**	**2008**	**2009**		**DRUG PRODUCTS**	**BASIC UNIT**	**BASIC UNIT PER DAY**	**NUMBER OF DAYS**	**BASIC UNITS PER EPISODE**
1	>=20	55,885	57,432	59,022	60,655	62,334	2HRZE/4HR	HRZE	tab	3	56	168
								HR	tab	3	112	336
2	>=20	4,790	4,923	5,059	5,199	5,343	2HRZES/1HRZE	HRZE	tab	3	84	252
								S	vial	1	56	56
								water for injection	vial	1	56	56
								HR	tab	3	140	420
								E	tab	3	140	420
3	11-19 y.o.	5,327	5,474	5,626	5,781	5,941	2HRZ/4HR	HR	tab	2	168	336
								Z	tab	1	56	56
	>=20	13,815	14,197	14,590	14,994	15,409	2HRZE/4HR	HRZE	tab	3	56	168
								HR	tab	3	112	336
	TOTAL	**79,816**	**82,026**	**84,296**	**86,630**	**89,028**						
						421,796						

PRIVATE SECTOR

		BASIC UNITS NEEDED						TOTAL VALUE ($)				
PATIENT CATEGORY	**AGE GROUP**	**2005**	**2006**	**2007**	**2008**	**2009**	**UNIT PRICE ($, 2003)**	**2005**	**2006**	**2007**	**2008**	**2009**
1	>=20	9,388,654	9,648,540	9,915,619	10,190,092	10,472,162	0.033	309,826	318,402	327,215	336,273	345,581
		18,777,308	19,297,079	19,831,238	20,380,183	20,944,324	0.013	244,105	250,862	257,806	264,942	272,276
2	>=20	1,207,113	1,240,527	1,274,865	1,310,155	1,346,421	0.033	39,835	40,937	42,071	43,235	44,432
		268,247	275,673	283,303	291,145	299,205	0.054	14,485	14,886	15,298	15,722	16,157
		268,247	275,673	283,303	291,145	299,205						
		2,011,854	2,067,544	2,124,776	2,183,591	2,244,035	0.013	26,154	26,878	27,622	28,387	29,172
		2,011,854	2,067,544	2,124,776	2,183,591	2,244,035	0.013	261,541	268,781	276,221	283,867	291,725
3	11-19 y.o.	596,582	613,096	630,067	647,508	665,431	0.013	7,756	7,970	8,191	8,418	8,651
		298,291	306,548	315,033	323,754	332,716	0.015	4,474	4,598	4,726	4,856	4,991
	>=20	2,320,875	2,385,119	2,451,141	2,518,991	2,588,718	0.033	76,589	78,709	80,888	83,127	85,428
		4,641,751	4,770,238	4,902,282	5,037,981	5,177,437	0.013	60,343	62,013	63,730	65,494	67,307
	TOTAL						**TOTAL VALUE ($)**	**1,045,107**	**1,074,037**	**1,103,767**	**1,134,320**	**1,165,719**
							TOTAL VALUE (P)	**58,526,015**	**60,146,063**	**61,810,956**	**63,521,934**	**65,280,273**

Assumptions:

1. Children are given standard regimen 3 (2HRZ/4HR).
proportion of category 3 patients that are children = 28%
2. Relative proportions of patients in each treatment category
category 1 = 0.7
category 2 = 0.6
category 3 = 0.24
3. Annual population growth rate is constant at = 0.0191
4. TB annual risk of infection, probability of the uninfected acquiring TB = 0.023
5. For adults, average weight is assumed to be in the 38-54 kg band. The average weight of children is assumed to be in the 10-14 kg band.
6. GDF prices for 2003 are used and assumed to be constant until 2009.
7. Peso-dollar exchange rate is P56:$1.
8. proportion of TB patients that are in the private sector = 0.351
9. FDC will be the sole drug preparation used for DOTS.
10. Projected population in 84,241,314 58
11. Effective demand is equal to target CDR = 0.75

Annex 6. TB CONTROL BUDGET[c], 1994 to 2004

GAA/NEP Budget line item	1994			1995			1996			1997			1998			1999		
	PS	MOOE	CO	PS	MOOE	CO	PS	MOOE	CO	PS	MOOE	CO	PS	MOOE	CO	PS	MOOE	CO
TB Control	2.755	203.723	0	2.905	181.526	3	4.228	181.565	0	5.247	195.544	1	7.008	201.696	0	7.24	190.522	0
TB Control Services	2.755	1.308		2.905	0.518		4.228	0.488		5.247	7.735	1	7.008	6.859		7.24	6.173	
PTS[d]		25.115			25.115	3		25.115			26.622			24.758			22.282	
National TB Control Program		177.3			155.893			155.962			161.187			170.079			162.067	
DOTS Program Development														17.775[b]				
TOTAL	206.478			187.431			185.793			201.791			208.704			197.762		

GAA/NEP Budget line item	2000[b]			2001[a]			2002[a]			2003			2004		
	PS	MOOE	CO	PS	MOOE	CO	PS	MOOE	CO	PS	MOOE	CO	PS	MOOE	CO
TB Control	49.12	530.46	300	13.027	24.877	0	1.105	24.007	0	0	154.007	0	0	154.007	0
TB Control Services				13.027	9.877		1.105	9.007			139.007			139.007	
PTS[d]					15			15			15			15	
National TB Control Program															
DOTS Program Development															
TOTAL	879.577			37.904			25.112			154.007			154.007		

Legends: a Entire budget for TB drugs was allocated to the different Regional Health Offices
b total budget for this year reflects total budget for the entire communicable disease programs including HIV AIDS.
c budgetary amount (in million pesos) for the whole TB control activities as reflected in the General Approriations Act and/or the National Expenditure Program
d budgetary support given to the Philippine Tuberculosis Society including the TB Pavilion in Cebu
PS Personnel Salary
MOOE Maintenance and other operating expenditures
CO Capital Outlay
GAA General Appropriations Act
NEP National Expenditure Program

Annex 7 - Field Visits and Key Informant Interviews:

Tools and Narrative Report

KII Tool

KII Guide Questions for DOTS Centers
The Philippine Tuberculosis Initiatives for the Private Sector (PhilTIPS) is an on-going project supported by the USAID to promote proper treatment of TB in the private sector through the use of the directly observed treatment short course (DOTS) regimen recommended by the World Health Organization (WHO). In line with this, the project is looking into the development of a Private Drug Facility (PDF) to assess TB drug management systems in existing and prospective DOTS centers, both public and private. In this visit, we will be asking questions and reviewing your records, if any, related to the supply and management of your TB drugs.
Facility Information
Name of DOTS Center: _____ **Location:** _____ _____ **Type:** ☐ **Public** ☐ **Private**
Name of Interviewee: Last: _____ First: _____ Middle:_____ **Position of Interviewee and Role in Drug Supply Management:** _____
Date /Time of Interview: _____
Name of Interviewer:

1. Do you keep supply of TB drugs in this Center? ☐ **Y** ☐ **N**

2. If Y, where does your TB drugs supply come from?

☐ **DOH** ☐ **Donated by _____**
☐ **own procurement** ☐ **others, pls. specify _____**

3. What types of TB drugs are used by this DOTS Center?

☐ **FDC** ☐ **Individual drugs (encircle all applicable)**
☐ **Blister Packs** **a) INH** **d) Pyrazinamide**
☐ **others, specify** **b) Rifampicin** **e) Strepto-mycin**
_____ **c) Ethambutol**
_____

4. When did you start receiving TB drugs from _____?
(source)

dd / mm / yyyy
d d / m m / y y y y

5. Do you keep records of your TB drugs procurement/requisition transaction?

☐ **Y** ☐ **N If yes, may we see your records for the past 12 months? (Proceed to records review and fill in data sheet below.)**

Date of Requisition	Volume Requisitioned	Date Delivered	Volume Delivered

Notes or comments on records kept:

_____
_____

_____
_____

If no, how do you keep track of your TB drugs supply?

Thru DOH report forms **Through physical inventory every _____**
others, specify _____

6. Do you keep records of your TB drugs utilization/consumption in this center?

Y **N**

If yes, may we see your records of drugs utilization in the past 12 months? (Copy pertinent data.)

Date/ Month or Quarter Enrolled	No. of New Patients Enrolled	No. of Patients Currently Enrolled	Volume of Drugs Consumed/Allocated to New Patients
March 2004			
February 2004			
January 2004			
December 2003			
November 2003			
October 2003			
September 2003			
August 2003			
July 2003			
June 2003			
May 2003			
April 2003			

Do you practise first expiry date-first out in dispensing drugs?

Y **N**

Observe:
Please check if drugs in storage are arranged according to expiry date:

Y **N**

Note: _____
_____
_____

---

7. May we now take a look at where and how you store your TB drugs supply in the center?

Observe:

a) where drugs are stored and what their storage capacity are

- **open medicine cabinet** **capacity:** _____
- **closed medicine cabinet** **capacity:** _____

b) humidity/temperature control and quality

- **aircon**
- **no aircon but well ventilated**
- **warm and humid**
- **others** _____
  _____

c) how drugs are arranged in storage (check as many as applicable)

- **stacked by type**
- **stacked by date of expiry**
- **stacked by package**
- **random**
- **by complete regimen**

d) how drugs already reserved for DOTS patients are kept and segregated from unallocated drugs

_____
_____
_____

e) observed volume of drugs in storage (record no. counted or indicate if more than or less than buffer stock requirement)

<u>allocated drugs</u> **:** _____

unallocated drugs: _____

f) Other observations (describe briefly)

accessibility _____

cleanliness _____

lighting _____

floor area _____

---

8. How often do you requisition for TB drugs from _____?
(source)

ˆ **quarterly** ˆ **when stocks fall to buffer level or less**

9. How do you determine how much TB drugs to requisition?

_____
_____
_____
_____

10. Do you requisition TB drugs by packs or by regimen?

ˆ **by packs** ˆ **by regimen**

11. How do you determine how much to keep/requisition as buffer stock?

_____
_____
_____
_____

12. What is your current stock level? Is this over or below your buffer stock requirement?

No. of packs _____

Equivalent no. of standard patient regimens _____

13. What is your average drugs consumption per month? per quarter? (Encircle reference period for data)

No. of packs: _____ per _____

No. of regimen (new patient): _____ per _____

14. Which of the following have you experienced in the past 12 months and how did you manage it? (Describe briefly what the problem was and how it was managed, outcome, etc.)

a) stockouts

_____
_____
_____
_____

---

b) expired drugs

_____
_____
_____

c) losses due to poor storage

_____
_____
_____
_____

d) pilferage

_____
_____
_____
_____

e) delayed delivery of supply

_____
_____
_____
_____

f) incomplete treatment due to lack of supply

_____
_____
_____
_____

15. Please describe how you administer TB drugs to your patients

- **Daily clinic visit**
- **Take home on weekends**
- **Others, specify _____**

16. Your record show that your patient load is increasing/constant/decreasing (encircle one).

What is your maximum case load capacity? _____ patients/<u>day or month</u> (encircle one)

Are you engaged in any form of advertising or active case-finding to attract more patients? If yes, please describe and tell us whether or not it increased your patient load.

_____
_____
_____
_____
_____
_____

---

17. Are all your patients residing or working in your catchment area?

- **Y**
- **N**

18. What do you do with patients coming in from outside your catchment area?

- **refer to other DOTS center**
- **provide service**
- **others, specify _____**

19. Have you experienced any of the ffg. TB patient case? How do you manage drugs supply in these cases? What percentage of your patients are accounted for by these?

Patient category	Action on drug supply	Percentage of patients treated in the center
a) Defaulters		
b) Transfer-in		
c) Treatment failures		
d) RAD		

---

20. Are TB drugs given to patients for free or are user charges collected?

ÎÎ free ÎÎ charged user fees

Describe how user fees are collected.

_____
_____
_____
_____
_____

ˆ **combination of above**

21. Is there a difference in drug administration for TB drugs given free and those where fees are charged?

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Narrative Report - 25 May 2004

PhilHealth Davao Regional Office XI, Davao City

- Dr. Marivic Pula-Malate
- Dr. Hector P. Malate
- Dr. Ruben Lacuna

PhilHealth has started to facilitate dialogue between private and public physicians to further streamline coordination of patient referral in relation to the TB DOTS benefit package. PhilHealth office in Davao City has already conducted a series of workshops to introduce its TB DOTS benefit package to prospective service providers. These activities also serve as venue for dialogue to forge agreements between government and private health service providers. These include private hospitals, individual private practitioners, and NGO-run clinics. They haven't accredited any DOTS centers yet but currently processing 10 applications for certification through PhilCAT from public and private providers.

According to Dr. Lacuna, private doctors or providers are interested in the TB DOTS benefit package of PhilHealth, specifically on the financial incentive that it presents. However, there hasn't been a consensus on how they should allocate the 4,000 pesos benefit value from the TB DOTS package in terms of the cost centers (such as professional fee, diagnostics or laboratory fee, incentive for treatment partners, among others). Private providers in Davao consider the certification fee[38] as too high despite the fact that the certification is valid for three years.

Dr. Hector Malate described the different steps in claims processing. Bottlenecks and problems in the current system were also discussed. PhilHealth Regional Office in Davao takes 48 days on the average[39] to completely process one claim. With membership more than 32,000, there are about 700-800 claims per day submitted to their office for processing. Each claim amounts to 5,200 pesos on the average, mostly coming from private health service providers.

In 2003, the total number of hospitalization claims due to TB is 3,205. About 48 percent[40] of these cases are due to TB as primary cause, the rest are secondary diagnoses.

[39] The standard number of days for processing one claim in PhilHealth is 60 days.

[40] 1,524 cases

Narrative Report - 25 May 2004

Davao del Sur Provincial Health Office, Digos City

- Dr. Mahelindez Z. Colmenares, Provincial Health Officer
- Dr. Edwin Mayor, Chief Technical Staff

Since the start of this year, Davao Del Sur Provincial Office in Digos City is no longer part of the drug distribution network of the DOH Regional Office and the Municipalities in the Province. Instead of having the PHO as the distribution hub for its municipalities, CHD (Center for Health Development of the Regional Health Office) is directly distributing TB drugs allocation directly using their Contact Distribution System to the different Municipalities and Cities. With this arrangement, the municipalities in the Province are no longer motivated to report NTP accomplishment including drug allocation and utilization report to PHO.

Dr. Mayor finds a lot of fault in the current system of drug distribution from the Regional Health Office. According to him, the Regional Health Office is not monitoring well the utilization of drugs in most of the municipalities it covers. With the use of CDS, there are lots of cases of stock-outs and over-allocation of drugs. In response to this, the PHO is now trying to redistribute over-allocated drugs to municipalities that need them (for cases of stock-outs). The PHO also procures drugs in FDC preparation from Wyeth (?) to augment the needs of RHUs.

Dr. Mayor also claims that he has already undergone training on the use of FDC TB drugs but is still unaware of the TB DOTS benefit package from PhilHealth. The PHO also conducts quality control checks for sputum microscopy for the RHUs in the different municipalities in the province. The Provincial Hospital houses the central laboratory where they do sputum microscopy with JICA-trained medical technologists.

A visit to the warehouse where anti-TB drugs are stored revealed inadequacies in facilities for drug storage. Not only was it is poorly ventilated, storage of TB drugs was badly done. Boxes of TB drugs were in different places inside the warehouse, both in the ground and mezzanine levels. These boxes of drugs in disarray and were not supported by any wooden pallet at all.

Narrative Report - 26 May 2004

***Davao Health Management Research Group Foundation (HMRGF)*, Davao City**

- Ms. Joy Basconillo

Davao HMRGF is a private health facility operating as a DOTS Center together with other in-house health services. Its staffing pattern includes 3 Family Medicine specialists, 1 Obstetrician-Gynecologist, one dentist, 1 optometrist, 1 nurse, 1 medical technologist, 2 pharmacy aides and 3 administrative staff and 2 marketing staff. Its facility includes the clinic for outpatient consultation, optical shop corner, laboratory, pharmacy, and a program and administrative office on the second level.

Aside from its clinical services, it also manages a program on Men in Domestic Violence supported by CIDA. Two full time staff are managing this program. The Foundation also offers out patient health insurance plans[41] to its clients. They also receive substantial amount of support from CORE AID in the operation of their Men in Domestic Violence Program.

As a DOTS Center, it charges 50 pesos for each visit of a TB patient. It also charges a laboratory fee of 50 pesos per sputum exam. It is currently receiving free drugs from the Regional Health Office quarterly upon submission of quarterly NTP report. This DOTS center is located near a public DOTS center but is still able to maintain a steady number of new clients every month. They are currently giving incentives to BHWs (based at the nearby RHU) who refer TB patients in the amount of 50 pesos for every sputum positive TB patient referral.

HMRGF started operation as a DOTS center in September 2003 with an initial stock of drugs good for the complete 6-month treatment of 8 patients. This stock lasted until February at which time they had reached a cumulative enrollment of 6 TB patients for treatment in their DOTS clinic. It was also during this month that they requested for another batch of TB drug supply, this time based on their reported cumulative number of enrolled patients in the NTP registry, plus a buffer stock of the same volume of drugs. Ms. Joy Basconillo is already trained on the use of FDC TB drugs for their patients.

Anti-TB drugs are stored in filing cabinets together with patient records. Each enrolled TB patient has a complete set of anti-TB drugs for the entire treatment course duration.

[41] SureHealth Corporate Plan and SureHealth Gold and Pearl Plans for individuals and/or families which is a pre-paid scheme covering out-patient care and routine laboratory examinations for members and their dependents.

Private Drug Facility Documentation Tool
DOTS Center: ***Health Management and Research Group Foundation***

Selection

Manual of Procedures for the NTP, 2001

(x) Yes ( ) No

Guidelines on the use of FDC Anti-TB Drugs for the NTP, 2003

(x) Yes ( ) No

Distribution and storage

Set of unexpired TB drugs available

TB Drugs

Type I Blister Pack – Rifampicin: 1 capsule of 450 mg / Isoniazid: 1 tablet of 300 mg / Pyrazinamide: 2 tablets of 500 mg

Type II Blister Pack – Rifampicin: 1 capsule of 450 mg / Isoniazid: 1 tablet of 300 mg

Ethambutol – 2 tablets of 400 mg

Streptomycin – 1 vial of 1.0 g

FDC A (HRZE) – 21 tablets

FDC B (HR) – 21 tablets

Pyrazinamide blister pack – 21 tablets

Ethambutol blister pack – 21 tablets

Stockout Data Form: No Stock Card

Product	**Month 1**	**Month 2**	**Month 3**	**Month 4**	**Month 5**	**Month 6**	**Month 7**	**Month 8**	**Month 9**	**Month 10**	**Month 11**	**Month 12**	**Total Days Out**
Type I Blister Pack													
Type II Blister Pack													
Ethambutol tablets													
Streptomycin vial*													
FDC A													
FDC B													
Pyrazinamide blister pack													
Ethambutol blister pack													

Inventory Data Form: N/A

Product	Counting Unit	Record Count	Recent Receipts	Recent Issues	Adjusted Total	Physical Count
A. Type I:						
Rifampicin	Capsule					
Isoniazid	Tablet					
Pyrazinamide	Tablet					
B. Type II:						
Rifampicin	Capsule					
Isoniazid	Tablet					

Ethambutol	Tablet					
Streptomycin	Vial					
FDC A	Tablet					
FDC B	Tablet					
Pyrazinamide	Tablet					
Ethambutol	Tablet					

Drug use

Treatment

TB Case Number	Age	Weight in kg	Previous TB Treatment	Classification	Type of Patient	Category	Sputum Examination Results	Drug Intake (Intensive Phase)	Drug Intake (Maintenance Phase)
03143001	38	48	No	Pulmonary	New	Cat-I	+/-/-/-	HRZE	HR
03143002	33	50	No	Pulmonary	New	Cat-I	+/-/-	HRZE	HR
04143001	65	50	No	Pulmonary	New	Cat-I	+/-/-	HRZE	HR
04143012	38	35	No	Pulmonary	New	Cat-I	+	HRZE	
04143011	37	42	No	Pulmonary	New	Cat-I	-	HRZE	
04143010	62	60	Yes	Pulmonary	Others	Cat-II	+	HRZES	
04143009	53	39	Yes	Pulmonary	Return After Default	Cat-II	+	HRZES	
04143008	27	44	No	Pulmonary	New	Cat-I	+	HRZE	
04143007	72	42	No	Pulmonary	New	Cat-I	+/-	HRZE	HR
04143006	45	50	No	Pulmonary	New	Cat-I	+/-	HRZE	HR
04143005	25	50	Yes	Pulmonary	?	Cat-I	+/-	HRZE	HR
04143004	52	44	No	Pulmonary	New	Cat-I	-	HRZE	
04143003	47	60	No	Pulmonary	New	Cat-I	+/-	HRZE	HR
04143002	45	50	No	Pulmonary	New	Cat-I	+/-/-/-	HRZE	HR
04143013	42	63	No	Pulmonary	New	Cat-I	+	HRZE	

TB patients who could correctly describe how the prescribed medication should be used for the continuation phase of the treatment: N/A

TB Case Number	Drug Intake	Quantity	Frequency (in a day)	Frequency (in a week)

Is the intake of TB drugs directly observed?

(x) Yes ( ) No

Quality control

Number of quality problems reported: N/A

Date filed	Storeroom	Prescriber	Dispensing Personnel	Patients

Narrative Report - 26 May 2004

Davao Regional Health Office (Center for Health Development), Davao City

- Dr. De Gracia

Dr. De Gracia confirmed that the Davao Regional Health Office is utilizing CDS in the distribution of TB drugs directly to the different RHUs and Cities. She claims that the current system is working well for them. They have already received FDC drugs and training for health personnel on the use of these drugs is about to be concluded.

An inspection of their warehouse where the TB drugs for distribution are stored together with other drugs, medicines and supplies was done. There is neither appropriate room temperature control nor any thermometer installed to at least monitor it. TB drugs in their boxes were stacked together in a corner under wooden pallets. FDC drugs from the DOH Central Office are already available in the warehouse all with 2006 expiry date. There are still some boxes of Anti TB drugs in blister pack (Types 1 and 2) preparation.

Narrative Report - 27 May 2004

Philippine Tuberculosis Society (PTS or TB Pavilion), Cebu City

- Dr. Purita Gil, Regional Director
- Ms. Arsenia L. Bumaya, Staff Nurse
- Ms. Mercenia Dosdos Mollaneda, NTP DOTS Coordinator

The PTS Regional Office in Cebu is presently operating as a DOTS Center for the inmates of the Cebu Provincial Prison and ___. Although they haven't applied for TB DOTS certification yet, they are currently treating a total of 24 inmates as TB patients under Category I. Only symptomatic patients referred by the prison health staff are screened by sputum microscopy. None of these prison inmates are PhilHealth members.

Inmates for transfer to Muntinlupa National Penitentiary are given full supply of drugs with referral notes to its health personnel. Patients who have completely served their prison terms are also given drugs to complete their treatment and referred to the nearest RHUs in their places of residence. Those who are still residing within the catchment area of PTS Cebu (Cebu City) continue their treatment under PTS staff supervision.

Aside from providing TB medication, they also conduct IEC campaign on TB DOTS inside the prison facilities with the assistance of its health personnel who also assist them in treatment activities. With the attendant risks of conducting treatment inside prison facilities, staff of PTS Cebu has been able to sustain TB DOTS activities for more than 4 years since 1999.

PTS Cebu, popularly known as TB Pavilion, secures their regular supply of anti-TB drugs from the City Health office. They claim that they have no problem sourcing their drug supply from this Cebu City Health Office as allocation of TB drugs are regularly done and adequate to cover all their enrolled patients for treatment. Buffer stock given are adequate. Left over drugs procured through JICA project funding a year ago in Blister Pack preparation also augments their supply of anti-TB drugs. They are currently prioritizing the utilization of these drugs from JICA since it is almost near expiring.

PTS Cebu is regularly submitting NTP accomplishment reports to their central office in Manila while furnishing copies to the Cebu City Health Office. Their Supply Officer maintains RIV and shipment reports for TB drugs. Their latest RIV records only shows TB drug supply in the late 1990s whereas last notice of shipment record is dated April 2002. (They don't have any TB drug stock cards). TB drugs are individually stored in cabinet drawers for each of their patients.

Private Drug Facility Documentation Tool
DOTS Center: TB Pavilion, Cebu City

Selection

1. Manual of Procedures for the NTP, 2001
   (x) Yes ( ) No

2. Guidelines on the use of FDC Anti-TB Drugs for the NTP, 2003
   (x) Yes ( ) No

Distribution and storage

3. Set of unexpired TB drugs available

TB Drugs	Yes	No
Type I Blister Pack – Rifampicin: 1 capsule of 450 mg / Isoniazid: 1 tablet of 300 mg / Pyrazinamide: 2 tablets of 500 mg	x	
Type II Blister Pack – Rifampicin: 1 capsule of 450 mg / Isoniazid: 1 tablet of 300 mg	x	
Ethambutol – 2 tablets of 400 mg	x	
Streptomycin – 1 vial of 1.0 g	x	
FDC A (HRZE) – 21 tablets	x	
FDC B (HR) – 21 tablets	x	
Pyrazinamide blister pack – 21 tablets	x	
Ethambutol blister pack – 21 tablets	x	

4. Stockout Data Form: No Stock Card

Product	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Total Days Out
Type I Blister Pack													
Type II Blister Pack													
Ethambutol tablets													
Streptomycin vial*													
FDC A													

Product	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Total Days Out
FDC B													
Pyrazina-mide blister pack													
Ethambutol blister pack													

5. Inventory Data Form: N/A

Product	Counting Unit	Record Count	Recent Receipts	Recent Issues	Adjusted Total	Physical Count
A. Type I:						
Rifampicin	Capsule					
Isoniazid	Tablet					
Pyrazinamide	Tablet					
B. Type II:						
Rifampicin	Capsule					
Isoniazid	Tablet					
Ethambutol	Tablet					
Streptomycin	Vial					
FDC A	Tablet					
FDC B	Tablet					
Pyrazinamide	Tablet					
Ethambutol	Tablet					

Drug use

6. Treatment

TB Case Number	Age	Weight in kg	Previous TB Treatment	Classification	Type of Patient	Category	Sputum Ex-amination Results	Drug Intake (Intensive Phase)	Drug Intake (Maintenance Phase)
04068003	23	49	No	Pulmonary	New	Cat-I	+/-/-	HRZE	HR
04068004	23	55	No	Pulmonary	?	Cat-I	+/-	HRZE	HR
04068001	40	52	No	Pulmonary	New	Cat-I	+/-/-	HRZE	HR
04068010	?	?	No	Pulmonary	New	Cat-I	+/-	HRZE	HR
04068009	22	46	No	Pulmonary	New	Cat-I	+/-	HRZE	HR
03068071	25	42	No	Pulmonary	New	Cat-I	+/-/-	HRZE	HR
04068011	30	51	No	Pulmonary	New	Cat-I	+/-	HRZE	HR

04068002	32	43	No	?	?	?	+/-/-	HRZE	HR
04068006	40	?	No	Pulmonary	New	Cat-I	+/-	HRZE	HR
04068005	30	45	No	Pulmonary	New	?	+/-	HRZE	HR
04068007	39	45	?	Pulmonary	New	Cat-I	+/-	HRZE	HR
04068008	?	35	No	Pulmonary	New	Cat-I	+/-	HRZE	HR
04068013	30	50	No	Pulmonary	New	Cat-I	+	HRZE	
04068012	22	51	No	Pulmonary	New	Cat-I	+	HRZE	
03068062	35	40	No	Pulmonary	New	Cat-I	-/-/-	HRZE	HR
03068065	37	56	No	Pulmonary	New	Cat-I	+/-/-/-	HRZE	HR
03068068	53	45	No	Pulmonary	New	Cat-I	+/-/-/-	HRZE	HR
03068055	24	55	No	Pulmonary	New	Cat-I	+/-/-/-	HRZE	HR
03068070	33	40	No	Pulmonary	New	?	+/-/-/-	HRZE	HR
03068058	53	48	No	Pulmonary	New	Cat-I	+/-/-/-	HRZE	HR
03068063	34	54	No	Pulmonary	New	Cat-I	+/-/-/-	HRZE	HR
03068064	24	52	No	Pulmonary	New	Cat-I	+/-/-/-	HRZE	HR
03068066	36	45	No	Pulmonary	New	Cat-I	+/-/-/-	HRZE	HR
03068061	33	57	No	Pulmonary	New	Cat-I	+/-/-/-	HRZE	HR

7. TB patients who could correctly describe how the prescribed medication should be used for the continuation phase of the treatment: N/A

TB Case Number	Drug Intake	Quantity	Frequency (in a day)	Frequency (in a week)

8. Is the intake of TB drugs directly observed?
(x) Yes ( ) No

Quality control

9. Number of quality problems reported

Date filed	Storeroom	Prescriber	Dispensing Personnel	Patients

Narrative Report - 28 May 2004

Regional Health Office (CHD), Cebu City

- Dr. Rosario Benabaye, Regional Director
- Dr. Cora Lou Kintanar, Chief, Communicable Disease Control Unit
- Ms. Lucy Aguiman, Cebu Regional Reference Laboratory
- Ms. Vivian Diapera, Clerk III
- Ms. Thelma Amante, Buyer III

Regional Health Office in Cebu City has abandoned CDS in distributing TB drugs to local public health facilities for Region VIII. This is based on their recently concluded rapid appraisal for health programs conducted last March 2004 where they received unsatisfactory assessment feedback from the different LGUs they serve. Most of the complaints were due to incomplete allocation resulting to incomplete and interrupted treatment of enrolled TB patients.

This office is now distributing drugs to its Provincial and City Health Offices for allocation to its respective RHUs or Health Centers. Request for TB drugs are based on the regular submission of NTP reports by provinces and cities with additional appropriation for buffer stocks. They are also encouraging LGUs to procure additional drugs, as needed. They have asked some LGUs to buy Ethambutol for their Category III patients when supply coming from the Central Office ran out.

Their warehousing facility is adequate in terms of space, general cleanliness and safety (inaccessible to unauthorized persons). However, temperature and humidity control and shelving for the different type of drugs are non-existent. Boxes of drugs are neatly piled under wooden pallet. During inspection, the team noted 68 boxes of Blister Pack Type II and one box of BP Type 1. There are also 40 boxes of FDC type A which came in two delivery batches, March 2004 and May 2004.

They are expected to complete all trainings on FDC use before the end of July of this year.

Narrative Report - 28 May 2004

Provincial Health Office, Cebu City

- Mr. Sergio Villahermosa, Supply Officer II
- Ms. Dahlia Abordo, Nursing Attendant

Cebu Provincial Health Office's warehousing facility is comparable to that of the CHD. It has adequate space and cleanliness is well maintained at least during the time of inspection. Boxes of drugs and other supplies are neatly stacked inside. However, temperature and humidity control is still inadequate.

This Provincial Health Office attests to the claim of CHD that they are currently having adequate and timely delivery of TB drugs (from the Regional Health Office). They also base their request for drugs on their quarterly submission of NTP accomplishment reports with prior physical inventory of supply by the Provincial NTP Coordinator. They take the responsibility of distributing these drugs to the RHUs under them using their own logistics for distribution. Nearby RHUs usually come to their office to directly pick up their allocation.

They regularly keep stock cards for the different types of TB drugs distributed. Last entry was accomplished May 2004 with a balance of 7,432 for type I blister pack; 2915 type I; 417 Ethambutol blister pack. Entries for Streptomycin vials are still not updated.
They have the following drugs in their warehouse:

1. Type 1 BP
    a. 6 boxes
    b. Expiry date: January 2006
2. Type II BP
    a. 7 boxes
    b. Expiry date: July 2005
3. FDC type A
    a. 66 boxes
    b. Expiry date: March 2006
4. FDC type B
    a. 60 boxes
    b. Expiry date: March 2006
5. Ethambutol
    a. 4 boxes
    b. Expiry date: November 2007
6. Streptomycin vials
    a. 1 box
    b. Expiry date: June 2006

Narrative Report - 28 May 2004

Lapu Lapu City Health Office, Lapu Lapu City

- Dr. Rodolfo Berame, City Health Officer
- Dr. Nestor Tuñacao, NTP Coordinator
- Ms. Margarita E. Dequito, NTP Nurse Coordinator

Lapu Lapu City Health Office is currently completing all the trainings for nurses and midwives on FDC use in their RHUs. This training started March 2004 and is expected to end May 2004. After this, they will use FDC drugs for their TB patients.

They conduct monthly monitoring of NTP and inventory of TB drugs in each of the RHUs in their catchment area, the latest of which was done in April 2004. Each patient enrolled in the NTP registry automatically gets an allocation of TB drugs for the entire treatment course. Under their TB DOTS implementation, treatment partner (BHW or household member) goes to the RHU to get weekly allocation of medicine. TB drugs are then administered daily at the residence of TB patient through the treatment partner. They also have developed their own referral form for trans-out patients.

Functional Diagnostic committee is already in place which meets weekly at the Regional Health Office. The Committee is composed of Pulmonologists and Radiologists both from the private and government sector[42]. However, to facilitate treatment, physicians are usually given discretion to treat Category III patients without the required screening by the Committee, using drugs procured by the City government. RHU doctors base their diagnoses only on patients' history and pertinent physical findings when deciding to treat Category III patients.

Anti-TB drugs are stored together with TB laboratory supplies in a small room adjacent to the NTP Coordinator's office. Upon physical inspection of the storage room, the team saw 3 boxes of Type II blister pack and 6 small boxes of Streptomycin vials. Both types of anti-TB drugs expire on July 2005 and June 2006, respectively. They were already notified by the Regional Health Office of their allocation for FDC drugs. Their remaining anti-TB drugs in blister pack preparations shall be retrieved by the CHD once they start receiving FDC drugs.

[42] Dr. Yu – Pulmonologist, private; Dr. Lim – Pulmonologist, private; Dr. Kho – Radiologist, government; Dr. Escarde – Pulmonologist, private.

Narrative Report - 28 May 2004

Mandaue City Health Office, Mandaue City

- Dr. Oscar Quirante, City Health Officer
- Ms. Eden Baring, NTP Coordinator

Mandaue City Health Office is the only PHIC accredited DOTS Center in Cebu. They were accreditated on April 2004. To date, they haven't filed any reimbursement claims for PhilHealth yet. They have already complied with the required training of all involved health personnel for FDC use and the Regional Health Office has already allocated FDC drugs for all their RHUs. NTP in the Mandaue City Health Office is also introducing a feeding program funded by a Belgian NGO, to augment and improve their TB case management of the elderly and pediatric patients.

This public DOTS Centers has also initiated collaborating with the private health providers and plans to allocate TB drugs for patients managed by private physicians provided that the nurse and/or the private physician will undergo training on TB DOTS protocol. Further, compliance to TB DOTS protocol is a requirement for issuance of business permits for private clinics and hospitals. The City Health Office shall monitor this scheme on a monthly basis.

The City Health Office of Mandaue also integrates TB DOTS in the conduct of medical and physical examination of employees and job applicants of private establishments. This unique role of the City Health Office has already been institutionalized through a city ordinance. An important part of their screening and examining process is the sputum exam to check for TB patients. If found positive, an employee is started on anti-TB drugs through the company nurse as treatment partner. The company nurse is given allocation of TB drugs good for the entire duration of treatment. If an employee or applicant is living near a RHU, the RHU personnel takes care of facilitating and appointing treatment partners.

Upon inspection, the following anti-TB drugs were found inside their warehouse:

1. Type I blister pack
    a. 6 boxes
    b. Expiry date: January 2006
2. Type II blister pack
    a. 4 boxes
    b. Expiry date: July 2005
3. Ethambutol blister pack
    a. 4 boxes
    b. Expiry date: March 2006

These drugs will be returned to the Regional Health Office upon receipt of the new FDC drugs.

Narrative Report - 1 June 2004

Center for Health Development, Iloilo City

- Dr. Sophia Chua, OIC Regional Director
- Dr. Ralph Cabral, Medical Officer IV
- Ms. Josephine Tapales, Supply Officer

The Regional Health Office in Iloilo utilizes CDS for the distribution of TB drugs. Initial point of distribution is the Inter Local Health Zone (ILHZ) through its referral hospital which serves as the secondary level warehouse at the regional level. RHUs are responsible for securing their allocation of TB drugs from the ILHZ referral hospital. In this distribution system, Stock Status Order forms serve as the basis for determining the volume and type of TB drugs to be allocated to each ILHZ. Drug distribution is no longer coursed through the Provincial Health Offices because of previous experiences in delays and near-expiry or expired drugs.

Simultaneous training for FDC drug use are on going in the different provinces of the Region through the CHD's DOH Representative Cluster Officers. Each province in the Region has its own functional Diagnostic Committee.

The CHD office has already received its allocation of FDC drug in February and April 2004:

1. FDC type A
    a. __ boxes
    b. Expiry date: April 2006
2. FDC type B
    a. 48,000 blister packs
    b. Expiry date: April 2006

The CHDs warehouse has structural problem in their gutter causing rainwater leakage on the floor.

Narrative Report - 1 June 2004

Iloilo Provincial Health Office, Iloilo City

- Dr. Carmen L. Bayate, Provincial Health Officer II
- Ms. Myrna Villar, Nurse Coordinator
- Mr. Edgar Piansay, Supply Officer

One of the PHO's main concerns in TB drug distribution is the inadequate supply coming from the Department of Health through the Regional Health Office. To augment supply, the Provincial Government of Iloilo is procuring anti-TB drugs from their health budget. The World Vision also contributes some supply but only to a limited extent.

Municipalities are also asked to procure drugs especially for Category III patients. In implementing TB DOTS in the province, 15 pilot municipalities started implementing the TB DOTS protocol. 7 municipalities will then follow as expansion sites. However, they are expecting a drug supply shortage if they are going to implement TB DOTS in these expansion sites.

12 municipalities in the province have already been trained in FDC drug use and are starting to use them.

PHO of Iloilo recommends bringing back the distribution of TB drugs from the CHD to their responsibility. According to them, the current system of drug distribution most often result to inadequate allocation to the different RHUs resulting in incomplete or delayed treatment. They also stressed that they are even willing to accommodate drug distribution to private DOTS Centers if CHD will restore the distribution mechanism via the PHO.

The drug delivery team of the PHO is composed of the Supply Officer, Driver and a Handler. Volume of anti-TB drugs for delivery is based on the NTP quarterly report with an equal amount (100%) of buffer stock. Monitoring of NTP by the PHO is done on a quarterly basis or even monthly, as needed. They also facilitate redistributing excess drugs to the RHUs which need them.

Temporary storage of drugs is done in the Supply Office while the warehouse is under repair. They only have stock of 11 boxes of streptomycin whose expiry date is on July 2006. Stock cards and RIVs are available.

Narrative Report - 1 June 2004

City Health Office, Iloilo City

- Dr. Bernard Caspe, NTP Coordinator
- Ms. Ilovita P. Daluz, Nurse Supervisor
- Ms. Mae Muyuela, Senior Public Health Nurse

The Iloilo City Health Office has already complied with the required FDC training and is currently using FDC in management of their TB patients. The use of FDC drugs started in April 2004. To augment the human resource for expansion, they are also hiring an additional 10 midwives for NTP implementation.

Their present cure rate is 93 percent with a case detection rate of 60 percent. Patients initially managed by private clinics and hospitals often pose an additional challenge due to incomplete treatment resulting in negative sputum results upon screening. These are the patients who are referred to the Diagnostic Committee for further screening and for possible classification under Category III.

This public health facility is already Sentrong Sigla Certified but PhilHealth accreditation is still pending. Steel filing cabinets serve as temporary storage of anti TB drugs allocated per patient enrolled because their warehouse is rodent-infested and has leaking roof.

In the past, they have experienced receiving near-expiry drugs coming from the Regional Health Office. They augment their supply of anti-TB drugs coming from the CHD by locally procured anti TB drugs approximately costing 7,000 pesos for one full course treatment (6 months) of one TB patient.

Narrative Report - 1 June 2004

St. Paul's Hospital DOTS Center, Iloilo City

- Ms. Imemar Divino, Midwife
- Ms. Elcie Azucena Solis, Nurse Coordinator

St. Paul's Hospital DOTS Center started operation in 2003 with drugs supplied by the CHD. With only 4 patients as initial enrollees, the hospital was allocated drugs good for 3 months plus a buffer stock good for another 3 months. The DOTS clinic is already PHIC accredited and is currently managing 17 TB patients.

Manned by two staff (1 nurse and 1 midwife), treatment of patients in the intensive phase is done in the DOTS Center with the patient taking the drugs under the supervision of his or her treatment partner. The subsequent drug allocation for maintenance phase is coursed through the treatment partner to whom TB drug supply is supplied weekly. Their catchment area is within the City only. Patients who lives outside the city are referred to the RHU nearest their place of residence.

Drugs are stored in the clinic's cabinet categorized per patient currently enrolled in the NTP. They also have the following anti-TB drugs as their buffer stock:

1. FDC type A – 150 blister packs
2. FDC type B – 308 blister packs
3. Ethambutol – 100 blister packs
4. Pyrazinamide – 12 blister packs
5. Streptomycin – 560 vials

Private Drug Facility Documentation Tool
DOTS Center: *St. Paul's Private- Public Mix DOTS Center*

Selection

10. Manual of Procedures for the NTP, 2001
    (x) Yes ( ) No

11. Guidelines on the use of FDC Anti-TB Drugs for the NTP, 2003
    (x) Yes ( ) No

Distribution and storage

12. Set of unexpired TB drugs available

TB Drugs	Yes	No
Type I Blister Pack – Rifampicin: 1 capsule of 450 mg / Isoniazid: 1 tablet of 300 mg / Pyrazinamide: 2 tablets of 500 mg		x
Type II Blister Pack – Rifampicin: 1 capsule of 450 mg / Isoniazid: 1 tablet of 300 mg		x
Ethambutol – 2 tablets of 400 mg		x
Streptomycin – 1 vial of 1.0 g		x
FDC A (HRZE) – 21 tablets	x	
FDC B (HR) – 21 tablets	x	
Pyrazinamide blister pack – 21 tablets	x	
Ethambutol blister pack – 21 tablets	x	

13. Stockout Data Form: No Stock Card

Product	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Total Days Out
Type I Blister Pack													
Type II Blister Pack													
Ethambutol tablets													
Streptomycin vial*													
FDC A													

Product	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Total Days Out
FDC B													
Pyrazina-mide blister pack													
Ethambutol blister pack													

14. Inventory Data Form: N/A

Product	Counting Unit	Record Count	Recent Receipts	Recent Issues	Adjusted Total	Physical Count
A. Type I:						
Rifampicin	Capsule					
Isoniazid	Tablet					
Pyrazinamide	Tablet					
B. Type II:						
Rifampicin	Capsule					
Isoniazid	Tablet					
Ethambutol	Tablet					
Streptomycin	Vial					
FDC A	Tablet					
FDC B	Tablet					
Pyrazinamide	Tablet					
Ethambutol	Tablet					

Drug use

15. Treatment

TB Case Number	Age	Weight in kg	Previous TB Treat-ment	Classification	Type of Pa-tient	Category	Sputum Ex-amination Results	Drug Intake (Intensive Phase)	Drug Intake (Maintenance Phase)
04590001	22	55	No	Pulmonary	New	Cat-I	+/+/-	HRZE	HRZE
04590002	53	53	No	Pulmonary	New	Cat-III	-	HRZE	
04590004	34	52	No	Pulmonary	New	Cat- I	+/-/-	HRZE	HR
04590005	16	41	No	Pulmonary	New	Cat-I	+/-/-	HRZE	HR
04590006	22	55	No	Pulmonary	New	Cat-I	+/-	HRZE	HR
04590007	22	46	No	Pulmonary	New	Cat- I	+/-	HRZE	HR
04590008	32	64	Yes	Pulmonary	Treatment	Cat-II	+/-	HRZES	HRZE

TB Case Number	Age	Weight in kg	Previous TB Treatment	Classification	Type of Patient	Category	Sputum Examination Results	Drug Intake (Intensive Phase)	Drug Intake (Maintenance Phase)
					Failure				
04590009	42	47	Yes	Pulmonary	Others	Cat-II	+	HRZES	
04590014	44	47	Yes	Pulmonary	Relapse	Cat- II	+	HRZES	
04590016	75	54	Yes	Pulmonary	New	Cat-I	+	HRZE	
04590104	45	41	Yes	Pulmonary	Relapse	Cat-II	+/-	HRZES	HRZE
04590111	46	45	Yes	Pulmonary	Others	Cat- II	+	HRZES	
03590025	32	58	No	Pulmonary	New	Cat-I	+/+/+/-/+/+	HRZE	HR
03590043	50	41	Yes	Pulmonary	Treatment After Loss	Cat-II	+/-/-	HRZES	HR
03590140	18	54	Yes	Pulmonary	Treatment After Loss	Cat- II	+/-/-	HRZES	HRE
?	22	46	Yes	Pulmonary	Others	Cat-II	+	HRZES	
?	42	51	Yes	Pulmonary	?	Cat-II	+	HRZES	
?	57	40	Yes	Pulmonary	Treatment Failure	Cat- II	+	HRZES	

16. TB patients who could correctly describe how the prescribed medication should be used for the continuation phase of the treatment: N/A

TB Case Number	Drug Intake	Quantity	Frequency (in a day)	Frequency (in a week)

17. Is the intake of TB drugs directly observed?
(x) Yes ( ) No

Quality control

18. Number of quality problems reported: N/A

Date filed	Storeroom	Prescriber	Dispensing Personnel	Patients

Narrative Report - 2 June 2004

Sta. Barbara Rural Health Unit, Sta. Barbara, Iloilo

- Dr. Camilla Lellis S. Tremuncha, Municipal Health Officer
- Ms. Eva Milanes, Nurse Coordinator

Sta. Barbara RHU regularly receives drug allocation from the CHD with some from the World Vision. The LGU takes care of procurement of TB drugs for Category III patients together with some Vitamin B supplements. The staff is already trained in the use of FDC drugs and just waiting to consume all their current stock of TB drugs in Blister Pack preparation. They receive quarterly allocation of TB drugs from the CHD through their CDS. Despite this distribution system in place, the center still experiences shortages in drug supply and late delivery, nothwithstanding its timely submission of NTP quarterly reports to the Regional Health Office. The RHU prefers that drug distribution be brought back to the Provincial Health Office where less problems were experienced compared to the CDS of the Regional Health Office. Currently, a buffer for 3 months is in stock.

Under the TB DOTS protocol, one family member and one BHW are required as treatment partners for each patient. On the average, new enrollees in NTP range from 5 to 7 patients per month. There are presently 30 patients currently enrolled in the NTP registry. During treatment initiation, patients and their treatment partners are given orientation or health education on TB DOTS using the visual aids and reference materials developed by World Vision.

The clinics have good relations with the private clinics within Sta. Barbara whose referred patients always come with appropriate referral forms although some of these private doctors still don't follow the standard TB DOTS protocol. Patients who come in for treatment from outside of their catchment area are usually given a one week supply of TB drugs with properly accomplished referral forms to the nearest RHU near their residence provided that they are sputum positive (Category I). Patients who are for transout are still given medicine to last for the whole duration of treatment with properly accomplished referral forms. Hospitalized patients are still made to complete their treatment regimen by endorsing their TB drugs to hospital staff and treatment partners together with a copy of their RHU treatment card.

Patients who finished the complete treatment regimen are recognized through a graduation ceremony sponsored by the RHU itself with donations coming from the RHU staff and other private individuals. Although PhilHealth has accredited them as a DOTS Center, they haven't applied for any case reimbursement yet. In their operation as an accredited DOTS Center, the following are their assumed cost centers as TB DOTS service provider:

1. Salary of staff (RHM, BHW, PHN, MHO)
2. Utilities, office space
3. Medicines, laboratory supplies and equipments
4. Travel expenses for home visits
5. Office supplies
6. Training and IEC materials and activities (e.g., patients' graduation from the treatment course)

Private Drug Facility Documentation Tool
DOTS Center: Sta. Barbara DOTS Center

Selection

19. Manual of Procedures for the NTP, 2001
    (x) Yes ( ) No

20. Guidelines on the use of FDC Anti-TB Drugs for the NTP, 2003
    ( ) Yes (x) No

Distribution and storage

21. Set of unexpired TB drugs available

TB Drugs	Yes	No
Type I Blister Pack – Rifampicin: 1 capsule of 450 mg / Isoniazid: 1 tablet of 300 mg / Pyrazinamide: 2 tablets of 500 mg	x	
Type II Blister Pack – Rifampicin: 1 capsule of 450 mg / Isoniazid: 1 tablet of 300 mg	x	
Ethambutol – 2 tablets of 400 mg	x	
Streptomycin – 1 vial of 1.0 g	x	
FDC A (HRZE) – 21 tablets		x
FDC B (HR) – 21 tablets		x
Pyrazinamide blister pack – 21 tablets		x
Ethambutol blister pack – 21 tablets		x

22. Stockout Data Form: No Stock Card

Product	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Total Days Out
Type I Blister Pack													
Type II Blister Pack													
Ethambutol tablets													
Streptomycin vial*													

Product	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Total Days Out
FDC A													
FDC B													
Pyrazina-mide blister pack													
Ethambutol blister pack													

23. Inventory Data Form: N/A

Product	Counting Unit	Record Count	Recent Receipts	Recent Issues	Adjusted Total	Physical Count
A. Type I:						
Rifampicin	Capsule					
Isoniazid	Tablet					
Pyrazinamide	Tablet					
B. Type II:						
Rifampicin	Capsule					
Isoniazid	Tablet					
Ethambutol	Tablet					
Streptomycin	Vial					
FDC A	Tablet					
FDC B	Tablet					
Pyrazinamide	Tablet					
Ethambutol	Tablet					

Drug use

24. Treatment

TB Case Number	Age	Weight in kg	Previous TB Treatment	Classification	Type of Patient	Category	Sputum Ex-amination Results	Drug Intake (Intensive Phase)	Drug Intake (Maintenance Phase)
04440004	?	?	No	Pulmonary	New	Cat-I	+/-/-/-	HRZE	HR
03440062	66	52.2	No	Pulmonary	New	Cat-I	+/-/-/-	HRZE	HR
04440027	39	48.2	No	Pulmonary	New	Cat-I	+	HRZE	
04440019	43	39	Yes	Pulmonary	Others	Cat-II	+	HRZE	
04440064	29	47	No	Pulmonary	New	Cat-I	+/-/-	HRZE	HR

TB Case Number	Age	Weight in kg	Previous TB Treatment	Classification	Type of Patient	Category	Sputum Examination Results	Drug Intake (Intensive Phase)	Drug Intake (Maintenance Phase)
04440012	53	40	No	Pulmonary	New	Cat-I	+/-	HRZE	HR
04440014	59	49.5	Yes	Pulmonary	Relapse	Cat-II	+	HRZES	
04440017	36	69.5	No	Pulmonary	New	Cat-I	+	HRZE	
04440013	64	33	Yes	Pulmonary	Relapse	Cat-II	+	HRZES	
03440055	43	49	No	Pulmonary	New	Cat-I	+/-/-/-	HRZE	HR
03440061	66	38.2	No	Pulmonary	New	Cat-I	+/-/-/-	HRZE	HR
03440059	72	39	No	Pulmonary	New	Cat-I	+/+/-/-/-	HRZE	HR
04440020	56	56	Yes	Pulmonary	New	Cat-I	+	HRZE	
04440010	45	48	No	Pulmonary	New	Cat-I	+/-	HRZE	HR
04440005	23	39.5	Yes	Pulmonary	Relapse	Cat-II	+/-	HRZES	HRZE
04440022	23	37.5	?	Pulmonary	New	Cat-I	+	HRZE	
04440011	58	50	No	Pulmonary	New	Cat-I	+/-	HRZE	HR
04440018	42	44.5	No	Pulmonary	New	Cat-I	+	HRZE	
04440025	46	55.5	?	Extra- Pulmonary	New	Cat-I	-	?	
04440008	55	46.6	No	Pulmonary	New	Cat-I	+/-	HRZE	HR
04440016	13	34	No	Pulmonary	New	Cat-I	+/-	HRZE	HR
03440058	41	53.6	No	Pulmonary	New	Cat-I	+/-/-/-	HRZE	HR
03440060	60	48	No	Pulmonary	New	Cat-I	+/-/-/-	HRZE	HR
04440063	53	43.5	No	Pulmonary	New	Cat-I	+/-/-	HRZE	HR
04440006	85	27.5	No	Pulmonary	New	Cat-I	+/-/-	HRZE	HR
04440010	47	42	Yes	Pulmonary	New	Cat-I	+/-	HRZE	HR
04440007	39	48	Yes	Pulmonary	New	Cat-I	+/-	HRZE	HR
04440021	55	38	Yes	Pulmonary	Relapse	Cat-II	+	HRZES	
04440023	42	50	No	Pulmonary	New	?	+	?	
04440026	40	49.2	No	Pulmonary	New	Cat-I	+	HRZE	
04440064	29	47	No	Pulmonary	New	Cat-I	+/-/-	HRZE	HR
04440012	53	40	No	Pulmonary	New	Cat-I	+/-	HRZE	HR

25. TB patients who could correctly describe how the prescribed medication should be used for the continuation phase of the treatment: N/A

TB Case Number	Drug Intake	Quantity	Frequency (in a day)	Frequency (in a week)

TB Case Number	Drug Intake	Quantity	Frequency (in a day)	Frequency (in a week)

26. Is the intake of TB drugs directly observed?
    (x) Yes ( ) No

Quality control

27. Number of quality problems reported: N/A

Date filed	Storeroom	Prescriber	Dispensing Personnel	Patients